

AUTHORS: Zvyagintsev, O. Ye., Shubochkina, Ye. F. SOV/78-3-9-35/38

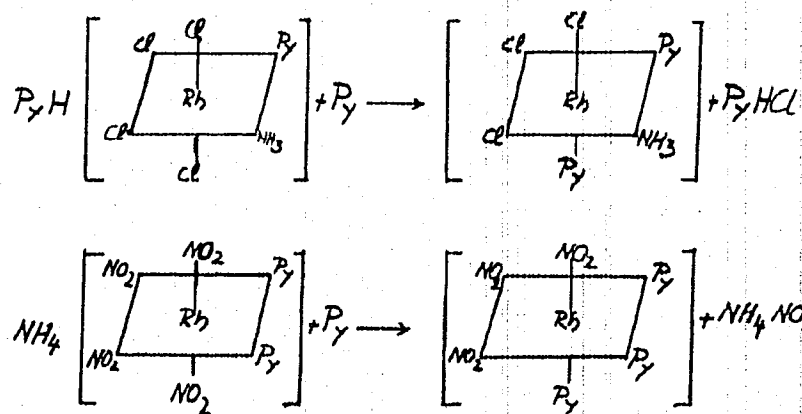
TITLE: An Investigation Into the Kinetics of Reaction of Complex Rhodium Compounds (Izucheniye kinetiki reaktsiy kompleksnykh soyedineniy rodiya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2214-2216 (USSR)

ABSTRACT: In order to explain the effect of trans-influence in rhodium complexes, the kinetics of the exchange reaction in rhodium compounds was examined. The reactions were carried out with the rhodium amines  $\text{PyH}[\text{RhCl}_4\text{NH}_3\text{Py}]$  and  $\text{NH}_4[\text{Rh}(\text{NO}_2)_4\text{Py}_2]$  with the reactive coordinates  $\text{Cl-Rh-Cl}$  and  $\text{NO}_2\text{-Rh-NO}_2$ .  
In the interaction of rhodium amines with pyridine only an exchange of pyridine takes place by an acid group which is in a trans-position to the other. The result of these exchange reactions are compounds that correspond to the following equations:

SOV/78-3-9-35/38

# An Investigation Into the Kinetics of Reaction of Complex Rhodium Compounds



The values of K, E and lg Z were determined for the compound  $\text{PyH}[\text{RhCl}_4\text{NH}_3\text{Py}]$ . The kinetic characteristics are similar to those of platinum-(IV)-compounds. There are 1 table and 4 references, 4 of which are Soviet.

AUTHORS: Zvyagintsev, O. Ye., Kurbanov, A. SOV/78-3-10-13/35

TITLE: Electrolytic Reduction of Some Nitroso Compounds of Ruthenium  
(Elektroliticheskoye vosstanovleniye nekotorykh nitrozo-soyedineniy ruteniya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 10, pp 2305-2308  
(USSR)

ABSTRACT: The electrolytic reduction of nitroso compounds of ruthenium was analyzed in order to ascertain the state of valency of ruthenium compounds. The method of electrolytic reduction was applied because no impurities are involved in it. An investigation was carried out of the electrolytic reduction of compounds of nitroso-sulfate ruthenium, nitroso-nitrate ruthenium, nitroso-oxalate ruthenium and nitroso-acetate ruthenium. In the electrolytic reduction of compounds of nitroso-oxalate ruthenium with the formula  $H_2[RuNO(C_2O_4)_2]$  three jumps appear in the reduction curves. The first indicates the reduction of the NO-group, the second indicates the reduction of Ru-(II) to Ru-(I) and the third indicates the reduction of Ru-(I) to Ru. The electrolytic reduction of nitroso-nitrate ruthenium with the formula  $RuNO(NO_3)_2$

Card 1/2

SOV/78-3-10-13/35

# Electrolytic Reduction of Some Nitroso Compounds of Ruthenium

shows only one jump in the reduction curve, probably in the reduction of  $\text{NO}_2$ . The electrolytic reduction of nitroso-acetate ruthenium shows also three jumps in the reduction curve. The first of them is probably not caused by the reduction of the  $\text{NO}$ -group, but by the  $\text{CH}_3\text{COO}^-$  ion.

There are 3 figures and 14 references, 4 of which are Soviet.

SUBMITTED: April 28, 1958

AUTHORS: Zvyagintsev, O. Ye., Kubranov, A. SOV/78-3-10-33/35

TITLE: On the Character of the Linkage of Ruthenium to NO-Group in Nitroso Compounds ( O kharaktere svyazi ruteniya s NO-gruppoy v nitrozosoyedineniyakh)

PERIODICAL: Zhurnal neorganicheskoy khimii , 1958, Vol 3, Nr 10, pp 2424-2427 (USSR)

ABSTRACT: For the production of ruthenium nitrosochloride -  $H [ RuNOCl_3 \cdot 2H_2O ]$  - a method of the solution of ruthenium oxide in hydrochloric acid was described, to which a considerable quantity of NO is added simultaneously. The reduction of the NO-group to the  $NH_2$ -group by means of zinc is connected with color change.  $RuNH_2Cl \cdot H_2O$  is the final product. This compound is a brown powder which is insoluble in water and organic solvents, but easily dissolves in diluted acids. The compound is paramagnetic with the magnetic susceptibility ( $\chi_2 = -0,203 \cdot 10^{-6}$ ). During the reduction of ruthenium nitrosochloride three jumps in potential take place. The first jump corresponds to the reduction of the NO-group, the second indicates the reduction of  $Ru^{II} \rightarrow Ru^I$ , the third

Card 1/2

On the Character of the Linkage of Ruthenium to  
NO-Group in Nitroso Compounds

SOV/78-3-10-33/35

indicates the reduction of  $Ru^{I} \rightarrow Ru$ . The potentiometric curve of the reduction of ruthenium amidochloride shows only one jump, which indicates the reduction of monovalent ruthenium to ruthenium metal. The linkage of ruthenium to the NO-group in nitroso compounds of ruthenium is caused by the nitrogen atom. There are 1 figure, and 8 references, 8 of which are Soviet.

SUBMITTED: May 28, 1958

Card 2/2

AUTHORS: Kyrsh, M., Zvyagintsev, O. Ye. SOV/78-3-11-23/23

TITLE: On the Mechanism of the Inclusions of Microquantities of Cesium Berlin Blue (O mekhanizme zakhvata mikrokolichestv tseziya berlinskoy lazur'yu)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2582-2592 (USSR)

ABSTRACT: The mechanism of the coprecipitation of microquantities of the cesium-iron-II-cyanide was investigated. The influence of the nature of the cations on the solubility of the ferrocyanide was investigated. The influence of the ratio of  $\text{Fe}(\text{CN})_6^{4-} : \text{Fe}^{3+}$  on the coprecipitation of cesium was investigated as well. The authors conclude from the results that the quantity of the coprecipitated cesium depends to an only small extent on the ratio of the reagents and that the coprecipitation of cesium is above all due to the formation of mixed crystals or solid solutions, respectively. The investigations of the influence of the various additions on the coprecipitation of cesium as cesium ferrite cyanide showed that several cations exercise a great influence on the coprecipitations. The co-

SOV/78-3-11-23/23

# On the Mechanism of the Inclusions of Microquantities of Cesium Berlin Blue

precipitation isothermal lines of the cesium Berlin blue were plotted (Fig 2). Additional experiments were carried out in order to explain the mechanism of the coprecipitation of the cesium Berlin blue. It was shown that in the case of an addition of cesium to finished Berlin blue sol the quantity of the coprecipitated cesium is smaller than in the case of the formation of sol in the case of the presence of cesium, i. e. the coprecipitation of cesium is much greater in the formation of Berlin blue sol. The coprecipitation of cesium with Berlin blue was investigated as well in the precipitation in a homogeneous medium. The system ferrocyanide tartrate was used for the precipitation in homogeneous medium. It was shown that the coprecipitation of cesium with Berlin blue in the homogeneous medium amounts to 99,97%, and in the case of a rapid formation of the precipitation to 99,86%. The coprecipitation effect of cesium with Berlin blue offers the possibility of a practical application of this method for the coprecipitation of cesium from diluted solutions. By means of this method of ion exchange the difference between the surface adsorption and the coprecipitation was detected. The increase in the cesium quantity in the precipitation of Berlin blue does not increase



On the Mechanism of the Inclusions of Microquantities of Cesium Berlin Blue  
SOV/78-3-11-23/23  
the dispersion of the precipitation.  
There are 5 figures, 6 tables, and 16 references, 6 of which  
are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D. I.  
Mendeleeva (Moscow Institute of Chemical Technology imeni  
D. I. Mendeleev) Voennoy tekhnicheskoy akademii im.  
A. Zapototskogo (g. Brno) ((Brno) Technical Military Academy  
imeni A. Zapototskiy)

SUBMITTED: April 20, 1958

AUTHORS: Zvyagintsev, O. Ye., Kurbanov, A. SOV/78-3-12-12/36

TITLE: Concerning the Degrees of Oxidation of Ruthenium in Acid Nitroso Compounds (O stepenyakh okisleniya ruteniya v atsidonitroso-soyedineniyakh)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 12, pp 2662-2665 (USSR)

ABSTRACT: The step-wise oxidation of ruthenium in nitroso-oxalates, nitrates, and acetates with potassium permanganate was investigated using the potentiometric method. By these investigations it was possible to determine the valence state of ruthenium in the following acid nitroso compounds:  $H_2[RuNO(C_2O_4)_2]$ ; ruthenium nitroso nitrate -  $RuNO(NO_3)_2 \cdot 3H_2O$ ; and sodium ruthenium nitrosotriacetate -  $Na[RuNO(CH_3COO)_3] \cdot H_2O$ . In the oxidation potentiometric curve for  $H_2[RuNO(C_2O_4)_2]$  there were found five clear and definite jumps in potential, indicating the oxidation of ruthenium from  $Ru^{2+}$  to  $Ru^{8+}$ . The last jump indicates the oxidation of the  $(C_2O_4)^{2-}$  group. The end-product

Card 1/2

SOV/78-3-12-12/36

Concerning the Degrees of Oxidation of Ruthenium in Acid Nitroso Compounds

of the oxidation is  $\text{RuO}_4$ . On the oxidation curve for  $\text{RuNO}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}$  were found potential jumps corresponding to the oxidation of  $\text{Ru}^{2+}$  to  $\text{Ru}^{8+}$ . The end-product of this reaction is  $\text{RuO}_4$ . The potentiometric oxidation titration curve for  $\text{Na}[\text{RuNO}(\text{CH}_3\text{COO})_3] \cdot \text{H}_2\text{O}$  is characterized by four jumps in potential, indicating the oxidation of ruthenium from  $\text{Ru}^{2+}$  to  $\text{Ru}^{8+}$ . The end-product is again  $\text{RuO}_4$ . The ruthenium in all the acidonitroso compounds investigated was divalent. There are 5 figures and 5 references, 3 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova  
Akademii nauk SSSR (Institute of General and Inorganic Chemistry  
imeni N. S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: July 17, 1958

Card 2/2

AUTHOR: Zvyagintsev, O. Ye. 75-13-2-23/27

TITLE: IVth Congress on the Analysis of Precious Metals  
(IV Soveshchaniye po analizy blagorodnykh metallovo)

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol. 13, Nr 2  
pp. 260-260 (USSR)

ABSTRACT: The IVth Congress on the Analysis of Precious Metals which was called by the Institute for General and Inorganic Chemistry imeni N.S. Kurnakov AS USSR (Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR) and by the Plant for Processing Precious Metals (Zavod po obrabotke blagorodnykh metallovo) in collaboration with the Ministry for Finances of the USSR, the Ministry for the Metallurgy of Nonferrous Metals of the USSR and with the Ural House of Technical Engineering (Ural'skiy dom tekhniki) took place at Sverdlovsk from May 20 to May 23, 1957. This congress was attended by 111 delegates and 32 organizations; 35 lectures and reports were attended. A group of reports was devoted to problems relating

Card 1/4

IVth Congress on the Analysis of Precious Metals

75-13-2-23/27

to technical methods of analysis. N. K. Pshenitsyn and I. V. Prokofyeva; Kh. I. Tsybulevskiy and I. N. Firsova as well as representatives of various factories (M.S. Usovoy and others) were the authors who delivered these lectures. Some reports dealt with volumetric methods (A. A. Grinberg and A. I. Dobroborskaya; M. A. Chentsova, T. P. Yufa and V. G. Levian and others). A special meeting was devoted to spectroscopic methods. Problems of the determination of all precious metals and certain admixtures in concentrates, melts, ores and other objects were dealt with in the reports delivered by V. P. Khrappay, V. L. Ginzburg, A. D. Gut'ko and N. N. Pankratova, A. D. Kuranov, N. P. Ruksha and M. M. Sviridova. Some reports (S. M. Anisimov, K. A. Pomytov and Ye. I. Nikitina, N. I. Chentsova) dealt with problems of the preparation of poor samples for the spectroscopic analysis. The problem of the applicability of test- methods for the determination of rhodium, iridium and ruthenium in ores and other products raised discussion. A report delivered by S. K. Shabarin and I. D. Fridman dealt with this field. The 4

Card 2/4

IVth Congress on the Analysis of Precious Metals

75-13-2-23/27

reports delivered by the following authors: N. K. Pshenitsyn, N. A. Yezerskaya and V. D. Ratnikova; Ye. K. Kuznetsova; S. M. Anisimov, V. M. Klypenkov, P. G. Shulakov, V. N. Alyanchikova and P. A. Gurin; Yu. S. Lyalikov and M. B. Bardin dealt with polarographic methods and the application of ion-exchange. A series of reports dealt with spectrophotometric and photocolometric methods of analysis. V. K. Levian and T. P. Yufa, N. K. Pshenitsyn, S. I. Ginzburg and L. G. Sal'skaya, V. N. Aleksandrov and V. F. Barkovskiy were the authors. 2 reports were delivered by V. B. Avilov. The lectures delivered by V. V. Kosova and S. M. Anisimov, V. M. Klypenkov and V. P. Tsimbal were devoted to the electrometric determination of silver in melts and factory products. M. S. Ruzhnikov delivered a report dealing with the method of determination of a gold test on a touchstone. The last group of reports dealt with physical methods of analysis. A. A. Rudnitskiy, A. P. Adakhovskiy and V. M. Karbolin, A. I. Kulak and O. Ye. Zvyagintsev, Z. M. Turovtseva were the authors of this group. Concluding, a report delivered by the repre-

Card 3/4

IVth Congress on the Analysis of Precious Metals

75-13-2-23/27

sentative of the Ministry of Finances of the USSR, D. G. Grebenkin, was attended.

The congress decided on a resolution in which a series of progress and errors in the analysis of precious metals within the last 2 1/2 years is noticed. The congress also pointed out the ways of further work in this field. Moreover, a resolution for the prompt publication of these works was decided on.

1. Metals--Analysis

PSHENITSYN, N.K., otv.red.; ZVYAGINTSEV, O.Ye., doktor khim.nauk, otv.  
red.; LEVI, T.G.; red.; LEVI, T.G.; red.izd-va; TRIFONOV, D.N.,  
red.izd-va; GUSEVA, I.N., tekhn.red.

[Analysis of noble metals] Analiz blagorodnykh metallov.  
Moskva, Izd-vo Akad.nauk SSSR, 1959. 193 p. (MIRA 12:10)

1. Akademiya nauk SSSR. Institut obshchey i neorganicheskoy  
khimii. 2. Chlen-korrespondent AN SSSR (for Pshenitsyn).  
(Platinum group) (Gold compounds) (Silver compounds)



PHASE I BOOK INFORMATION 807/5084

International Conference on the Peaceful Uses of Atomic Energy. 2d, Geneva, 1958.  
 Doklady sovetskoy akademii. [4.] Khimiya radioelementov i radiatsionnykh  
 prevrashcheniy (Report of Soviet Scientists. V. 4.: Chemistry of Radio-  
 elements and Radiation Transformations) Moscow, Atomizdat, 1959. 323 p.  
 8,000 copies printed. (Series: Ito; Trudy)

Ed. (Title page): A. P. Vinogradov, Academician; Ed.: V. I. Labanov; Tech. Ed.:  
 Ya. I. Maslov.

**PURPOSE:** This collection of articles is intended for scientists and engineers  
 interested in the applications of radioactive materials in science and  
 industry.

**CONTENTS:** The book contains 26 separate studies concerning various aspects of  
 the chemistry of certain radioactive elements and the processes of radiation  
 effect on matter. These reports discuss present-day methods of reprocessing  
 irradiated nuclear fuel, research in the chemistry of uranium, thorium,  
 uranium, plutonium, and americium, problems related to the sorption and bury-  
 ing of radioactive wastes, the radiolysis of aqueous solutions and of  
 organic compounds, the mechanism of polymer chain grafting, and the effect  
 of radiation on natural and synthetic rubbers. V. N. Prusakov edited the  
 present volume. Most of the reports are accompanied by references. Con-  
 tributions to individual investigations are mentioned in annotations to  
 the Table of Contents.

Almichikhin, I. D., L. L. Dvornikova, L. F. Klyis, V. V. Pechen, and N. N. Chelobanov. Production and Properties of Several Heavy Fluorides of Actinide Elements (Report No. 2208)	157
Taborsky, G. A., and V. N. Korshakov. Investigations on the Chemistry of Americium (Report No. 2207)	157
[In S. Gornbo-Garnakov is mentioned as having supplied the material for the second section of this study.]	
Gornbo-Garnakov, S. G., V. D. Nikol'skiy, S. M. Shadrin, A. Kuznetsov, and G. A. Taborsky. Contribution to the Chemistry of Radioactive Ruthenium (Report No. 2145)	166
Shadrin, S. M., V. D. Nikol'skiy, A. P. Rudakov, V. V. Gerasimov, P. M. Shadrin, Ya. N. Verov, and G. A. Taborsky. Study of the Migration of Radioactive Elements in Soils (Report No. 2207)	174
Yakovlev, S. A., G. A. Barada, P. P. Dolgikh, and L. I. Bakker. Separation of Low-Activity-Content and Low-Activity Waste Waters from Radiochemical Plants (Report No. 2024)	189
Mol'shakova, L. A., A. T. Andolina, V. S. Kuznetsov, Z. V. Kuznetsov, and others. Separation of Low-Activity-Content Waste Waters from Radiochemical Plants Contaminated with Radioactive Elements (Report No. 2025)	194
Rogovoy, V. G., and Ye. M. Kuznetsov. On the Possibility of Relying Radiometric Measures in Deep-sea Experiments of the Ocean (Report No. 2026)	204
Prokhorova, M. A., and Ye. M. Kuznetsov. Investigations into the Separation of Low-Activity-Content Waste Waters from Radiochemical Plants (Report No. 2022)	211
[The investigations were carried out at the Laboratory of Radiochemical Separation of the Institute of the Physicochemical Institute, Leningrad, under the direction of M. A. Prokhorova, V. D. Gerasimov, Ye. M. Kuznetsov, and A. I. Chernov. The data on oxidation-reduction reactions taking place in aqueous solutions under the effect of gamma-radiation were obtained from investigations made at the Laboratory of Radiochemical Separation of the Institute of the Physicochemical Institute, Leningrad, under the direction of Ye. M. Kuznetsov, V. D. Gerasimov, and G. A. Barada. The following are mentioned as having made a study of complex reactions such as the formation of dyes from amino bases: V. S. Kuznetsov, A. A. Kuznetsova, L. I. Mol'shakova, T. V. Kuznetsov, and M. Ye. Shadrin.]	
Mol'shakova, L. A., V. I. Medvedevskiy, and V. V. Shadrin. Radiolysed Oxidation of Organic Compounds (Report No. 2279)	229
[The following are mentioned: M. A. Kuznetsova and Ye. V. Shadrin.]	

31  
229

ZVIAGINTSEV, O.Ye.; SHAMAYEV, V.I.

Radioactivation analysis applied to the determination of microimpurities in tellurium. Radiokhimiia 1 no.6:717-723  
'59. (MIRA 13:4)

(Tellurium--Analysis) (Metals--Analysis)

5(4)

AUTHORS:

Kirš, M., Zvyagintsev, O. Ye.

SOV/78-4-1-39/48

TITLE:

Investigation of the Co-Precipitation of Micro-Quantities of Caesium With Berlin Blue by the Method of Sudden Precipitation  
(Issledovaniye soosazhdeniya mikrokolichestv tseziya s berlinskoy lazur'yu metodom mgovernogo soosazhdeniya)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 227-229 (USSR)

ABSTRACT:

The above method for the co-precipitation of micro-quantities of caesium showed that co-precipitation is not dependent on caesium being contained in one or the other of the two solutions. The dependence of the constant according to V. G. Khlopin on the amount of the solid phase which is formed on sudden precipitation was determined. The results are shown in table 2. The values of the Khlopin constant D depend on the concentration of iron (III) in the solution. Several rules governing the formation of anomalous mixed crystals were confirmed. By the method of sudden co-precipitation the co-precipitation isotherm of caesium with Berlin blue was obtained. The experimental data are in accordance with the equation by Kirgintsev (Ref 7):

Card 1/3

SOV/78-4-1-39/48

Investigation of the Co-Precipitation of Micro-Quantities of Caesium With Berlin Blue by the Method of Sudden Precipitation

$$\frac{\Gamma}{c} = B(\Gamma_{\infty} - \Gamma)^{1/m} \quad \left[ \frac{G}{c} = V(G_{\infty} - G)^{1/m} \right]$$

where B and  $\Gamma_{\infty}$  = constants,  $\Gamma$  = concentration of the micro-component in the solid phase, c = concentration of the microcomponent in the solution, m = number of atoms which form the molecule of the microcomponent (according to Kirgintsev).

There are 1 figure, 2 tables, and 8 references, 6 of which are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D. I. Mendeleyeva (Moscow Chemical-Technological Institute imeni D. I. Mendeleyev) Voyennaya akademiya im. A. Zapototskogo (Brno) (Military Academy imeni A. Zapototsky (Brno))

Card 2/3

SOV/78-4-4-26/44

5(4), 21(7)  
AUTHORS:

Zvyagintsev, O. Ye., Kuznetsov, V. A.

TITLE:

On Complex Compounds of Hexavalent Uranium With Hydroxylamine  
(O kompleksnykh soyedineniyakh shestivalentnogo urana s gidroksilaminom)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 866-868  
(USSR)

ABSTRACT:

The authors investigated the complex formation of hexavalent uranium with hydroxylamine in dependence of the pH value of the solution. When mixing a solution of uranyl nitrate with a neutral solution of hydroxylammonium chloride or hydroxylammonium sulphate with a pH value of 8 and more, uranium is retained as a complex in the solution. At  $\text{pH} < 8$  yellow, difficultly soluble crystals are formed. These crystals are insoluble in some organic solvents. The formula  $[\text{NH}_3\text{OH}]_2\text{UO}_4 \cdot \text{H}_2\text{O}$  resulted from the analysis. The complex solution of hydroxylammonium uranate ( $\text{pH} \geq 8$ ) remains stable for several months. From these solutions uranium cannot be reduced or precipitated even by the action of alkali liquor at high temperatures. In the case of a large ex-

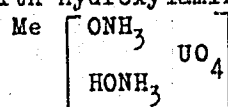
Card 1/3

SOV/78-4-4-26/44

# On Complex Compounds of Hexavalent Uranium With Hydroxylamine

cess of hydroxylamine and a pH value of 9.5 light absorption corresponds to the Lambert-Bear law. With the action of methanolic hydroxylamine on an alcoholic solution of uranyl nitrate an amorphous precipitation of the composition  $[\text{NH}_2\text{OH}]_2\text{UO}_4$  occurs.

The authors synthesized alkali salts of the uranyl-hydroxylamine compounds in a ratio of  $\text{Me} : \text{U} : \text{NH}_2\text{OH} = 1 : 1 : 2$  (Me - the ion of the alkali metal). Further, the authors prepared the similar uranyl compounds with hydrazine, mono-, di-, and trimethylamine, di-, mono-, and triethylamine as well as ethylenediamine. No detailed experiments were made with this compounds. The following formula is suggested for soluble complex compounds of the uranyl ion with hydroxylamine:



The dilute aqueous solutions of pure compounds of this composition can be hydrolyzed with the formation of sodium uranate. The authors investigated some properties of the compounds such as solubility, density, and electric conductivity. The electric

On Complex Compounds of Hexavalent Uranium With Hydroxylamine

SOV/78-4-4-26/44

conductivity of the compounds with Me = Na, K is given in a table. There are 1 figure, 1 table, and 7 references, 1 of which is Soviet.

SUBMITTED: November 5, 1958

5(2)

AUTHOR:

Zvyagintsev, O. Ye.

SOV/78-4-9-43/44

TITLE:

The 8th Mendeleev Congress on General and Applied Chemistry

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 9, pp 2178-2182  
(USSR)

ABSTRACT:

The Congress mentioned in the title was held in Moscow from March 16 to 23, 1959. More than 4000 delegates and guests from 19 countries participated. It was opened by the President of the Organizatory Committee, Academician A. N. Nesmeyanov, who asked the participants to discuss the development of chemistry and chemical technology in the USSR in the light of the decisions of the 21st Congress of the CPSU. The following Members read papers in the plenary sessions: V. S. Fedorov, Chairman of the Gosudarstvennyy komitet soveta Ministrov SSSR po khimii (State Committee on Chemistry of the Council of Ministers, USSR): Tasks of Scientific and Technical Progress in the Chemical Industry; V. A. Kargin: Basic Problems of Polymer Chemistry; A. N. Nesmeyanov: The Periodic System and Organic Chemistry; N. N. Semenov: Basic Problems of Chemical Kinetics; V. I. Spitsyn: The Present State of D. I. Mendeleev's Periodic Law;

Card 1/6



The 8th Mendeleev Congress on General and  
Applied Chemistry

SOV/78-4-9-43/44

A. P. Vinogradov: Basic Problems of Radiochemistry; V. A. Engel'gardt: Basic Problems of Biochemistry; A. V. Sokolov: Chemical Problems of Agriculture in the USSR; V. B. Nikolayev: Main Tasks of the Construction of Chemical Machinery and Apparatus; Ya. K. Syrkin: Basic Problems of the Theory of Chemical Linkage; and A. P. Aleksandrov: Chemical Prospects for the Use of Atomic Energy. An appeal to all chemists of the USSR was drawn up in which they are exhorted to devote all their strength to the fulfillment of the great tasks posed by the 21st Congress of the CPSU. The following speakers at the meetings of the individual sections are mentioned: Section of Inorganic Chemistry and Technology (118 lectures): V. I. Spitsyn; I. V. Yanitskiy (Kaunas)(Selenopolythionates); Liu Ta-kang (People's Republic of China); N. A. Godina (Leningrad = L)(Hafnium dioxide); P. I. Protsenko, L. N. Venerovskaya (Rostov n/D); B. N. Ivanov-Emin (Moscow = M); A. I. Grigor'yev (M) at the same time on behalf of A. V. Novoselova, K. N. Semenenko; V. C. Kuznetsov, Z. V. Popova (M); V. Ya. Rosolovskiy (M); K. F. Karlysheva; I. A. Sheka, Ts. V. Pevzner (Kiyev = K); T. V. Permyakova, I. S. Lileyeva (L); On Peroxides: I. A. Kazarnovskiy, S. Z. Makarov,

Card 2/6

The 8th Mendeleev Congress on General and  
Applied Chemistry

SOV/78-4-9-43/44

T. I. Arnol'd, I. I. Vol'nov (all M); T. V. Rode, G. K.  
Grishenkova, A. V. Zachatskaya (M); S. A. Shchukarev, I. V.  
Vasil'kova, M. P. Morozova, T. I. Likhniy, Huang Chi-T'ao,  
K'ang Hw'ing (L); A. Simon (East Germany), Z. Szabo (Hungary),  
G. B. Boki (M). Subsection on Physico-chemical Analysis:  
I. N. Lepeshkov (M), V. I. Mikheyeva (M), L. G. Berg (Kazan'),  
F. M. Perel'man; A. I. Agayev (Baku), L. S. Itkina, V. F. Kokhova  
(M); I. G. Grigor'yev (Kuybyshev), Ye. S. Bruyle (M); A. A.  
Zinov'yev, V. Ya. Rosolovskiy (M); N. M. Dombrovskiy, M. S.  
Ivanova (Chernovtsy); E. B. Shternina, Ye. V. Frolova (M); M. I.  
Ravich, F. Ye. Borova; O. K. Yanat'yeva (M), B. A. Beremzhanov  
(Alma-Ata), D. I. Eristavi (Tbilisi), F. V. Lapshin (Chernovtsy),  
N. N. Sirota (Minsk), A. P. Palkin (Voronezh); A. V. Nikolayev,  
A. G. Kurnakova, I. I. Yakovlev (M); I. N. Belyayev (Rostov n/D);  
B. F. Markov, R. V. Chernov (K); Ye. I. Smagina, V. S. Kutsev,  
B. F. Ormont (M); N. N. Yevseyeva, N. P. Lushnaya, I. P.  
Vereshchagina, L. I. Antonova, Ye. I. Zharkovskiy, K. S.  
Kranchevich (M); L. A. Bulygin, P. T. Danil'chenko (Simferopol'),  
Ye. K. Akopov (Krasnodar); A. A. Vakhrushev (Izhevsk).  
Subsection on the Chemistry of Complex Compounds:  
I. I. Chernyayev, L. A. Nazarova, V. S. Orlova (M);

Card 3/6

The 8th Mendeleev Congress on General and  
Applied Chemistry

SOV/78-4-9-43/44

N. N. Krasovskaya, V. A. Tsingister (M); N. I. Ushakova (M, at the same time on behalf of A. V. Babayeva), L. M. Volshteyn (Dnepropetrovsk), Kh. I. Gil'dengershel' (L), Yu. N. Kukushkin (L), S. P. Derendyayev (Izhevsk), O. Ye. Zvyagintsev, A. Kurbanov, S. M. Starostin (M); S. I. Ginzburg, N. K. Pshenitsyn, L. G. Sal'skaya (M); I. I. Chernyayev (M, also in the name of Ye. V. Shenderetskaya), A. D. Troitskaya (Kazan'), V. G. Tronev (M), L. Kolditz (East Germany), E. Thilo (East Germany), A. V. Ablov, N. M. Samus' (Kishinev); I. B. Baranovskiy, A. V. Babayeva (M); Yu. P. Nazarenko (K), R. Ripan, G. Marua (Rumania); Ye. A. Nikitina, Ye. V. Prytkova, O. N. Sokolova (M); N. K. Davidenko (K, also on behalf of Ya. A. Fialkov); E. N. Deychman (M), K. N. Mikhalevich, V. V. Kobzev (L'vov); Lu Chao-ta I. V. Tananayev (M); T. T. Mityureva (K), A. M. Golub (K), K. B. Yatsimirskiy (Ivanovo), B. V. Ptitsyn, D. I. Vinogradova, Ye. N. Tekster, L. N. Sheronov (L); V. I. Yermolenko (K, also on behalf of Ya. A. Fialkov), P. K. Migal', A. N. Pushnyak; A. I. Shnarovich (Chernovtsy), Z. A. Sheka, Ye. Ye. Kriss (K); O. I. Zakharov - Nartsissov, O. Ye. Zvyagintsev (M); V. A. Latysheva (L), Ye. A. Maksimuk, G. S. Ginzburg (L); V. I. Paramonova, A. N. Mosevich,

Card 4/6

The 8th Mendeleev Congress on General and  
Applied Chemistry

SOV/78-4-9-43/44

A. S. Koreychuk (L); A. A. Grinberg (L), G. A. Shagisultanova (L),  
L. Ye. Nikol'skaya (L), I. G. Ryss, S. L. Idel's (Dnepropetrovsk),  
Ye. Sh. Ganelina (L). Subsection on Questions of Technology:  
S. I. Vol'fkovich, N. N. Postnikov, L. A. Ionass, Ye. V.  
Illarionov, R. Ye. Roman (M); A. B. Bekturov (Alma-Ata), L. V.  
Yumanova, A. S. Mikulitskiy, A. P. Selyanskiy, F. S. Marok,  
M. A. Serebrennikov (Sverdlovsk), Ye. P. Ozhigov (Vladivostok),  
Yu. S. Palyshvskiy (Sverdlovsk), V. M. Lekaye, A. G. Kasatkin,  
L. N. Yelkin (M); A. V. Baranov, E. A. Liberzon (Dnepropetrovsk),  
S. V. Kushnir, Ya. P. Berklman (L'vov), Ya. Ye. Vil'yanskiy,  
Ye. I. Savinkov, L. A. Borovskikh, A. I. Teterovkov, L. S.  
Bychikhin (Sverdlovsk); V. F. Kovtuk, A. G. Lagutina, P. T.  
Danil'chenko (Simferopol'); T. N. Dymova, A. A. Vysheslavtsev (M);  
In cooperation with the Section Metals and Alloys on the subject  
of semiconductor alloys: N. N. Sirota (Minsk), B. F. Ormont (M),  
L. D. Dudkin (M), Z. G. Pinsker (M), Ya. A. Ugay (Voronezh),  
N. A. Goryunova (L), B. T. Kolomiyets, A. N. Goryunova, V. P.  
Shilo (L). Section Chemistry and Technology of Silicates: More  
than 60 lectures, among which there were lectures by Ye. A.  
Poray-Koshits (L), D. V. Mazurin (L). Section Metals and Alloys:

Card 5/6

The 8th Mendeleev Congress on General and  
Applied Chemistry

SOV/78-4-9-43/44

numerous papers (no names given). Section Agronomical Chemistry of Fertilizers and Pest Control: the only names mentioned were S. I. Vol'fkovich (M), A. F. Kalinkevich (M). Section Radio-chemistry and Isotope Chemistry: 30 lectures, of which there were mentioned: A. D. Gel'man (M): Complex Compounds of Transuranic Elements; A. M. Gurevich, L. D. Preobrazhenskaya, L. P. Polozhenskaya, Ye. V. Komarov (L): Peroxides of Hexavalent Uranium; A. K. Lavrukhina, S. S. Rodin, A. A. Pozdnyakov (M): Chemical Properties of Francium; Yu. B. Gerlit (M): Extraction of Technetium; I. P. Alimarin, Yu. A. Zolotov, Yu. P. Novikov, P. N. Paley, Ye. S. Pal'shin (M): Chemical Properties of Neptunium; I. Ye. Starik (L): Microquantities of Radioactive Elements in Solution; V. I. Grebenshchikova, R. V. Bryzgalova, N. B. Chernyavskaya, V. I. Bobrova (L): on the Crystallization of Transuranides; V. M. Vdovenko and collaborators (L): Extraction of Uranium, Neptunium, and Plutonium From an Aqueous Solution. Further lectures dealt with the reactions of "hot" atoms of various elements, the separation and elimination of isotopes, radiation chemistry, and other problems.

Card 6/6

3(0), 3(8)

AUTHOR:

Zvyagintsev, O.

SOV/7-59-6-13/17

TITLE:

Review. V. M. Kreyter, V. V. Aristov, I. S. Volynskiy, A. N. Krestovnikov, V. V. Kuvichinskiy. "Behavior of Gold in the Oxidation Zone of Gold - Sulphide Deposits" - Gosgeoltekhizdat, Moscow, 1959, 268 p, Price 13,40 Rubles

PERIODICAL:

Geokhimiya, 1959, Nr 6, pp 560 - 561 (USSR)

ABSTRACT:

The book was written by a team of mineralogists, geologists and chemists under the direction of V. M. Kreyter. The oxidation zones of the following deposits were investigated: Maykain (Kazakhstan), Dzhugaly (Kazakhstan), and Novyy Sibay and Blyava (Southern Urals). The dissolution process of gold in the oxidation zone was thoroughly investigated. The dissolution by  $\text{Fe}_2(\text{SO}_4)_3$  in sulfuric acid solution is regarded as the most probable one on the basis of experimental results. The concepts by F. Freyze (transport in form of organic solutions), A. Ye. Fersman (transport in form of cyanides), F. V. Chukhrov (transport in form of bromates and iodides), and M. N. Al'bov (transport in form of gold suspension) are rejected. A solution by  $\text{Fe}_2(\text{SO}_4)_3$  in hydrochloric acid solution is also

Card 1/2

SOV/7-59-6-13/17  
Review. V. M. Kreyter, V. V. Aristov, I. S. Volynskiy, A. N. Krestovnikov,  
V. V. Kuvichinskiy. "Behavior of Gold in the Oxidation Zone of Gold - Sul-  
phide Deposits" - Gosgeoltekhizdat, Moscow, 1959, 268 p, Price 13,40 Rubles

regarded as improbable for gold is transported together with silver. Silver is, on the other hand, converted into a soluble complex by NaCl in hydrochloric acid solution. The formation of gold - chloride complexes is also found to exist, whereas the formation of iron sulfate - gold complexes has remained a hypothesis. Another disadvantage of the book is the large number of printing errors and the inferior quality of the representation of microphotographies. On the whole, however, the book is welcomed and regarded as very interesting.

SUBMITTED: May 20, 1959

Card 2/2

SOLOV'YEV, Yuriy Ivanovich; ZVIAGINTSEV, Orest Yevgen'yevich; GRIGOR'YEV,  
A.T., prof., otv.red.; BANKVITSER, A.L., red.izd-va; MAKUNI,  
Ye.V., tekhn.red.

[Nikolai Semenovich Kurnakov; his life and works] Nikolai Seme-  
novich Kurnakov; zhizn' i deiatel'nost'. Moskva, Izd-vo Akad.  
nauk SSSR, 1960. 205 p. (MIRA 13:4)  
(Kurnakov, Nikolai Semenovich, 1860-1941)



ROZHKOV, P.I., laureat Stalinskoy premii, otv.red.; PSHENITSYN, N.K.,  
retsenzent; ZVIAGINTSEV, O.Ye., prof., doktor khim.nauk,  
retsenzent; PRILEZHAYEVA, N.A., prof., doktor fiz.nauk, retsen-  
zent; ANISIMOV, S.M., prof., red.; SHULAKOV, P.G., red.; SEMENOVA,  
N.Ya., red.; GUT'KOV, A.D., red.; DOLGIKH, V.I., red.; KAMAYEVA,  
O.M., red.isd-va; ISLENT'YEVA, P.G., tekhn.red.

[Methods of analyzing platinum metals] Metody analiza platinovykh  
metallov, zolots i serebra; sbornik nauchnykh trudov. Moskva,  
Gos.nauchno-tekhn.isd-vo lit-ry po chernoi i tsvetnoi metallurgii,  
1960. 256 p. (MIRA 13:9)

1. Russia (1917- R.S.F.S.R.) Krasnoyarskiy ekonomicheskii admi-  
nistrativnyy rayon. Sovet narodnogo khozyaystva. 2. Chlen-kor-  
respondent AN SSSR (for Pshenitsyn).  
(Platinum--Analysis) (Gold--Analysis)  
(Silver--Analysis)

KURNAKOV, Nikolay Semenovich, akademik [1860-1960]; ZVYAGINTSEV, O.Ye.,  
doktor khim.nauk, otv.red.; SHEVCHENKO, G.N., tekhn.red.

[Selected works] Izbrannye trudy. Moskva, Izd-vo Akad.nauk  
SSSR. Vol.1. 1960. 595 p. (MIRA 14:3)

(Kurnakov, Nikolai Semenovich, 1860-1941)  
(Chemistry, Physical and theoretical) (Systems (Chemistry))

ZVIADINTSEV, O.Ye.

Nikolai Semenovitch Kurnakov. Izv. vys. ucheb. zav.; tsvet. met.  
3 no. 6:157-162 '60. (MIRA 14:1)  
(Kurnakov, Nikolai Semenovitch, 1860-1941)

ZVIAGINTSEV, O.Ye.; ZAKHAROV-MARTSISOV, O.I.

Distribution of cyanoauric (I) acid between aqueous solutions  
and some alcohols and ketones. Zhur.neorg.khim. 5 no.1:124-130  
Ja '60. (MIRA 13:5)

1. Moskovskiy ordena Lenina khimiko-tehnologichaskiy  
institut im. D.I.Mendeleyeva.  
(Cyanoauric acid)

5(2)

68114

SOV/78-5-1-23/45

AUTHORS:

Zvyagintsev, O. Ye., Zakharov-Nartsissov, O. I., Ochkin, A. V.

TITLE:

Solvation and Polymerization of Cyanoauric (I) Acid in Aqueous Solutions

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1, pp 131-138 (USSR)

ABSTRACT:

This article deals with the conditions of extraction of cyanoauric (I) acid and its salts from aqueous solutions by means of organic solvents. The authors investigated: 1) the dependence of  $\alpha$  on the equilibrium concentration  $[H^+]$  of the hydrogen ions in the extraction of  $HAu(CN)_2$  by means of various alcohols ( $\alpha$  = distribution coefficient of  $HAu(CN)_2$  among aqueous and organic phase) for which they derived equation (6); 2) the dependence of the alcohol content of the aqueous phase upon the sulfuric acid concentration (Table 1). It was found that the solubility of alcohols in the aqueous phase decreases with rising concentration of  $H_2SO_4$ . 3) Furthermore, the authors studied the dependence of  $\alpha$  upon the equilibrium concentration of  $AuH(CN)_2$  in the organic phase (Table 2). It was found that

68114

SOV/78-5-1-23/45

# Solvation and Polymerization of Cyanoauric (I) Acid in Aqueous Solutions

solvates of the form  $\text{HAu}(\text{CN})_2 \cdot x\text{Sol}$  are formed by reaction of  $\text{HAu}(\text{CN})_2$  with the aliphatic alcohols under consideration.

These solvates are present in the organic and aqueous phase alike. The distribution coefficient decreases with rising concentration of cyanoauric (I) acid in the aqueous phase, which is explained by the formation of polymers of the form  $[\text{HAu}(\text{CN})_2]_n$ . Such dimers are present in the aqueous phase, and are not extracted by a 1:1 mixture of n-amyl alcohol or cyclohexanone and benzene. No polymers were detected in strongly dilute solutions. There are 1 figure, 2 tables, and 6 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy ordena Lenina khimiko-tekhnologicheskii institut im. D. I. Mendeleyeva (Moscow "Order of Lenin" Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: July 9, 1959

Card 2/2

ZVIAGINTSEV, O.Ye.; SHAMAYEV, V.I.

Determination of certain microimpurities in high-purity  
selenium. Report No.3. Zhur.anal.khim. 15 no.3:325-328  
My-Je '60. (MIRA 13:7)

1. D.I.Mendeleev Moscow Chemico-Technological Institute.  
(Selenium--Analysis)

18.3000

77500  
SOV/80-33-1-9/49

AUTHORS: Zvyagintsev, O. Ye., Zakharov-Nartsissov, O. I.

TITLE: Extraction of Gold From Cyanide Solutions Obtained  
by Treatment of Gold Ores

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 1, pp 55-58  
(USSR)

ABSTRACT: The authors calculated distribution coefficients for gold and for metallic impurities (silver, iron, arsenic, copper, etc.) in extraction of gold (as  $\text{HAu}(\text{CN})_2$ ) from acidified (with  $\text{H}_2\text{SO}_4$ ) technical cyanide solutions by isoamyl alcohol. Two ore samples (submitted by Professor M. D. Ivanovskiy) were treated for gold extraction (composition (in mg/kg ore) or ore Nr 1 - Au, 16-18; Ag, 20-25; sum of Sb, Fe, Cu, 300-400; Zn, none; As, none; ore Nr 2 - Au, 17-19; Ag, 40-60; As, 50,000-60,000; Sb, 5; Zn, 80; Cu, 6,000-7,000; Fe 60,000-80,000). Hundred-gram ore samples ground to 150 mesh were placed

Card 1/5



Extraction of Gold From Cyanide Solutions  
Obtained by Treatment of Gold Ores

77500  
SOV/80-33-1-9/49

into porcelain tumblers which were then filled up with solutions of NaCN (0.12 and 0.25 % weight in solutions of ores 1 and 2, respectively) and alkali (0.12% CaO and 0.2% NaOH, respectively). After 36-40 hr of mixing the decanted solution was acidified with 0.1M sulfuric acid with subsequent addition of radioactive indicators ( $\text{NaAu}(\text{CN})_2$ ,  $\text{NaAg}(\text{CN})_2$ ,  $\text{Na}_4\text{Fe}(\text{CN})_6$ , or  $\text{Na}_2\text{Zn}(\text{CN})_4$ ) to equal volume fractions of the solutions (for measurements of -activities). Copper and arsenic were determined separately--(copper by the method of Gillebrand, V. F., Lendel, G. E., et al., (Practical Manual for Inorganic Analysis (Prakticheskoy rukovodstvo po neorganicheskomu analizu), Goskhimizdat, 268 (1957)) and arsenic by the method of Analysis of Raw Mineral Materials (Analiz mineral'nogo syr'ya, Goskhimizdat, 505 (1959)). These solutions were then shaken with isoamyl alcohol, keeping the volume ratio of organic ( $v_{\text{org. equil.}}$ ) and aqueous ( $v_{\text{aq. equil.}}$ ) phases equal to 1:5 in all experiments. Distribution coefficient of

Card 2/5

Extraction of Gold From Cyanide Solutions  
Obtained by Treatment of Gold Ores

77500  
SOV/80-33-1-9/49

metals ( ) was calculated by the formula  $= N_{org} / N_{aq}$ , where  $N_{org}$  and  $N_{aq}$  are -activities in organic and aqueous phases at equilibrium. For Cu and As, was found by analysis, using the formulas:

$$v_{aq. init.} \cdot C_{aq. init.} = v_{aq. equil.} \cdot C_{aq. equil.} + v_{org. equil.} \cdot C_{org. equil.};$$

$$= C_{org. equil.} / C_{aq. equil.},$$

where  $v_{aq. init.}$  is initial volume of the aqueous phase; and  $C$  (with respective indices) is concentration of metals in these phases. Percent of gold recovery =

$$\frac{N_{aq. init.} - N_{aq. equil.}}{N_{aq. init.}} \cdot 100. \text{ Two subsequent extrac-}$$

tions resulted in 98.5% of gold recovery from both ores.

Extraction of Gold From Cyanide Solutions  
Obtained by Treatment of Gold Ores

77500  
SOV/80-33-1-9/49

Separation of gold from silver, copper, and zinc is complete (i.e., their distribution coefficients were found to be zero), while % of iron and arsenic admixtures is very low ( $\text{Fe} = 0.01$ ,  $\text{As} = 0.06$ ).

Figure 1 shows variation of distribution coefficients with concentration of sulfuric acid. There are 1 figure; 2 tables; and 5 Soviet references.

SUBMITTED: July 2, 1959

Card 4/5

# Extraction of Gold From Cyanide Solutions Obtained by Treatment of Gold Ores

77500  
SOV/80-33-1-9/49

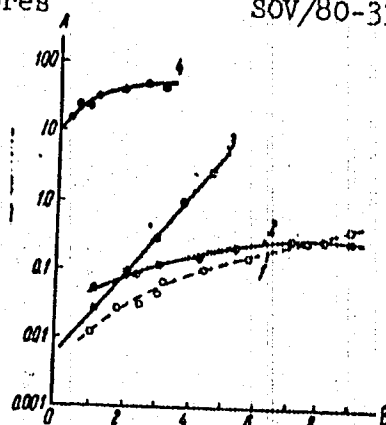


Fig. 1. Variation of distribution coefficients of gold, iron, arsenic, and sulfuric acid in their distribution between isoamyl alcohol and cyanide solution obtained from ore Nr 2 with concentration of the acid in aqueous phase. (A) Distribution coefficient  $A: C_{org}/C_{aq}$ ; (B) concentration of H<sub>2</sub>SO<sub>4</sub> (in moles/l). (1) H<sub>2</sub>SO<sub>4</sub>; (2) As; (3) Fe; (4) Au.

Preparation of aluminum oxychloride. Zhur.prikl.khim. 33 no.5:  
1208-1211 My '60. (MIRA 13:7)

(Aluminum chloride)

2V-LACINTSEV, O.I.; SOLOV'YEV, Yu.I.

In memory of the first editor of the Journal of Applied Chemistry,  
A.I.Gorbov (1859-1939). Zhur.prikl. khim. 33 no.6:1404-1405-Je '60.  
(MIRA 13:8)  
(Gorbov, Aleksandr Ivanovich, 1859-1939)

ZVYAGINTSEV, O.Ye.

Nikolai Semenovich Kurnakov; 100th anniversary of his birth.  
TSvet. met 33 no. 12:81-83 D '60. (MIRA 13:12)  
(Kurnakov, Nikolai Semenovich, 1860-1941)

(Kurnakov, Nikolai Semenovitch, 1860-1941)



ALIMARIN, I.P.; BILLIMOVICH, G.N.; BUSEV, A.I.; VAYNSHTEYN, B.Ye.; VOLYNETS,  
M.P.; GORYUSHINA, V.G.; DYMOV, A.M.; YELINSON, S.V.; ZVYAGINTSEV,  
O.Ye.; KOLOSOVA, G.M.; KORCHEMNAYA, Ye.K.; LEESEDEV, V.I.; MALOFEYEV,  
G.A.; MELENT'YEV, B.N.; NAZARENKO, V.A.; NAZARENKO, I.I.; PETROVA, T.V.;  
POLUEKTOV, N.S.; PONOMAREV, A.I.; RYABUKHIN, V.A.; STROGANOVA, N.S.;  
CHERNIKHOV, Yu.A.; VINOGRADOV, A.P., akademik, otv. red.; RYABCHIKOV,  
D.I., doktor khim. nauk, prof., otv. red.; GUS'KOVA, O., tekhn. red.

[Methods for the determination and analysis of rare elements] Metody  
opredeleniia i analiza redkikh elementov. Moskva, 1961. 667 p.  
(MIRA 14:7)

1. Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii.  
(Metals, Rare and minor)

"Problems of geochemistry," no.1 1960. Reviewed by O.E. Zviagintsev.  
Geokhimiia no.1:90-91 '61. (MIRA 14:3)  
(Copper ores) (Nickel ores)

ZVIAGINTSEV, O.Ye.; FADUKOV, I.A.

In memory of N.K.Pshenitsyn; obituary. Zhur.neorg.khim. no. 9:9  
1981-1989 S. '61. (MIRA 14:9)  
(Pshenitsyn, Nikolai Konstantinovich, 1891-1961)

Trudy Inst. 1st.  
(MIRA 14:9)

S/078/61/006/003/012/022  
B121/B208

AUTHORS: Zvyagintsev, O. Ye., Khromenkov, L. G.  
TITLE: Composition of thorium compounds with malic acid  
PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 3, 1961, 593-600

TEXT: The systems thorium nitrate - malic acid - water, thorium nitrate - acid sodium malate - water, and thorium nitrate - sodium malate - water were studied by determining electrical conductivity, pH, and by potentiometric titrations. Two types of complex compounds of thorium with malic acid with a ratio of the components of 1 : 1 and 1 : 2 were found. These complexes exist in different forms, depending on the pH. Determination of the transference number disclosed that thorium migrates to the cathode in an acid medium at a ratio of the components of 1 : 1, and to the anode in a weakly acid medium at a ratio of the components of 1 : 3. It may be seen from this that in the compound with the composition 1 : 1, thorium appears in the complex as the cation, and in the compounds with the composition 1 : 2, it is in a complex anion. The following thorium malates were synthesized: ✓

S/078/61/006/003/012/022  
B121/B208

Composition of ...

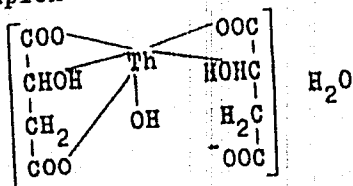
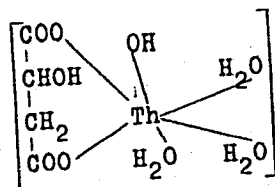
$(\text{ThOH})_2\text{Mal}_3 \cdot 4\text{H}_2\text{O}$ ,  $\text{Na}_2\text{Th}(\text{OH})_2\text{Mal}_2 \cdot 4\text{H}_2\text{O}$ , and  $\text{NaTh}(\text{OH})\text{Mal}_2 \cdot 6\text{H}_2\text{O}$ . Two methods were used for the production of basic thorium malate  $(\text{ThOH})_2\text{Mal}_3 \cdot 4\text{H}_2\text{O}$ : methyl alcohol was added to an aqueous solution of thorium nitrate and malic acid. Basic thorium malate was obtained in the form of a white amorphous precipitate which was washed out with water and acetone and then dried at  $100^\circ\text{C}$ . In the second method, an aqueous solution of thorium nitrate was added to an aqueous solution of sodium malate in a ratio of  $\text{Th}(\text{NO}_3)_4 : \text{Na}_2\text{Mal} = 2 : 3$ . The composition of the compound with  $(\text{ThOH})_2\text{Mal}_3 \cdot 4\text{H}_2\text{O}$  was determined by chemical analysis. This compound is insoluble in water, alcohol, benzene, acetone, and other organic solvents; it is decomposed when treated with mineral acids. A stable complex compound with a ratio of the components of  $1 : 1$  could not be isolated in an acid medium. At a ratio of the components  $\text{Th}(\text{NO}_3)_4 : \text{Na-malate} = 1 : 3$ , and at  $\text{pH} = 4$ , a white precipitate of the composition  $\text{NaTh}(\text{OH})\text{Mal}_2 \cdot 6\text{H}_2\text{O}$  results when methyl alcohol is added. This compound is comparatively easily soluble in water, but insoluble in

Card 2/4

S/078/61/006/003/012/022  
 B121/B208

Composition of ...

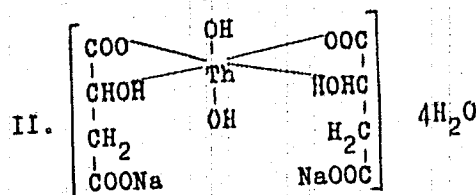
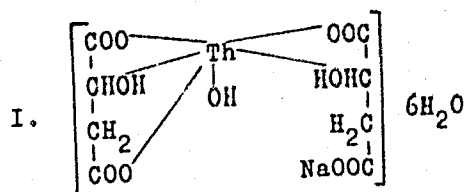
alcohol, benzene, acetone, ether, and other organic solvents. Mineral acids destroy this compound. No thorium hydroxide can be precipitated by adding alkali lyes to the aqueous solution. The following structural formula is suggested for thorium malate with a complex anion and cation:



For the compounds  $\text{Na}_2\text{Th}(\text{OH})_2\text{Mal}_2 \cdot 4\text{H}_2\text{O}$  and  $\text{NaTh}(\text{OH})\text{Mal}_2 \cdot 6\text{H}_2\text{O}$ : the following structural formulas are suggested:

S/078/61/006/003/012/022  
 B121/B208

Composition of ...



The instability constant of the complex  $[\text{ThMal}]^{2+}$  was calculated to be  $K_{\text{in}} = 5.2 \cdot 10^{-7}$ . The range of existence of the complex compounds was determined from potentiometric titrations. The ion  $[\text{Th}(\text{OH})\text{Mal}_2]^-$  appears at a pH of less than 5,  $[\text{Th}(\text{OH})_2\text{Mal}_2]^{2-}$  at a pH of 5-8, and  $[\text{Th}(\text{OH})_3\text{Mal}_2]^{3-}$  at a pH of more than 8. There are 4 figures, 1 table, and 8 references: 3 Soviet-bloc.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova  
 Akademii nauk SSSR (Institute of General and Inorganic  
 Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR)

SUBMITTED: September 29, 1960

Card 4/4



Tetravalent oxyhydroxy compounds of trivalent iron.  
Zhur.neorg.khim. 6 no.4:863-869 Ap '61. (MIRA 14:4)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova  
AN SSSR.

(Iron compounds)

~~EVYAGINSEV, O. P.~~, KHRONENKOV, L.G.

Complex compounds of thorium with tartaric acid. Zhur.neorg.khim.  
6 no.4:874-882 Ap '61. (MIRA 14:4)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova  
AN SSSR.  
(Thorium compounds) (Tartaric acid)

S/078/61/006/005/005/015  
B121/B208

AUTHORS: Zvyagintsev, O. Ye., and Khromenkov, L. G.

TITLE: Complex compounds of thorium with trihydroxy-glutaric acid

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 5, 1961,  
1074 - 1083

TEXT: The reaction of thorium nitrate with trihydroxy-glutaric acid, with sodium trihydroxy-glutarate, and with sodium bis-trihydroxy-glutarate was studied by measuring the electrical conductivity, by potentiometric titrations and determinations of the transference numbers. It may be seen from the results that thorium nitrate and trihydroxy-glutaric acid form complexes with a ratio of the components of 1 : 1 and 1 : 2. The basic thorium trihydroxy-glutarate has a ratio of the components  $\text{Th}(\text{NO}_3)_4 : \text{H}_4\text{Gl} = 1.2 : 1$  ( $\text{H}_4\text{Gl} = \text{C}_5\text{H}_8\text{O}_7 = \text{trihydroxy-glutaric acid}$ ).

The compound  $(\text{ThOH})_2(\text{H}_3\text{Gl})_3$  is regarded as a simple salt of thorium with trihydroxy-glutaric acid. The complex having a ratio of the components of

Card 1/4

✓  
—

S/078/61/006/005/005/015  
B121/B208

Complex compounds of ...

1 : 1 is stable in the pH-range of 4 - 7. At a higher pH, a precipitate is formed which probably consists of the more sparingly soluble thorium trihydroxy-glutarate complex. At a ratio of the components of 1 : 2 a complex is formed in the pH-range of 6 - 7,5 that is stable also at a pH above 8. Some thorium trihydroxy-glutarate compounds were synthesized.

$(\text{ThOH})_2(\text{H}_2\text{Gl})_3$  is obtained by mixing the aqueous solutions of thorium nitrate and trihydroxy-glutaric acid. The compound is a white, fine-crystalline powder, nearly insoluble in water and organic solvents.

$\text{Th}(\text{OH})\text{H}_2\text{Gl} \cdot 2\text{H}_2\text{O}$  is prepared by adding an aqueous solution of trihydroxy-glutaric acid and sodium hydroxide to an aqueous solution of thorium nitrate at a ratio of the components  $\text{Th}(\text{NO}_3)_4 : \text{H}_3\text{Gl} : \text{NaOH} = 1 : 1 : 4$ .

By adding methyl alcohol, a white precipitate is formed from the clear or slightly turbid solution.  $\text{NaTh}(\text{OH})_2\text{H}_2\text{Gl} \cdot \text{H}_2\text{O}$  was obtained by mixing solutions of thorium nitrate, trihydroxy-glutaric acid, and sodium hydroxide in a ratio of the components of 1 : 1 : 5. It is a white, fine-crystalline powder, readily soluble in water and insoluble in organic solvents. The compound  $\text{NaTh}(\text{OH})(\text{H}_3\text{Gl})_2 \cdot \text{H}_2\text{O}$  was obtained in the form of a white amorphous

Card 2/4

Complex compounds of ...

S/078/61/006/005/005/015  
B121/B208

precipitate by mixing aqueous solutions of the components  $\text{Th}(\text{NO}_3)_4$  and  $\text{Na}_2\text{H}_3\text{Gl}$  in a ratio of 1 : 3 and adding methyl alcohol. It is easily soluble in water and insoluble in organic solvents. No thorium hydroxide can be precipitated from the aqueous solution of this compound by adding alkali hydroxide solutions. The compound  $\text{Na}_2\text{Th}(\text{OH})_2(\text{H}_3\text{Gl})_2$  is obtained as a white, fine-crystalline precipitate by adding sodium hydroxide to an aqueous solution of thorium nitrate and sodium trihydroxy-glutarate at a ratio of the components of 1 : 3 and subsequent addition of methyl alcohol. This precipitate is well soluble in water, but insoluble in organic solvents. The aqueous solution of the complex is destroyed by mineral acids, no thorium hydroxide precipitates when alkali hydroxide is added. In aqueous solution the complex dissociates into three ions. The stability constant of thorium trihydroxy-glutarate  $(\text{ThH}_3\text{Gl})^{2+}$  was calculated and found to be  $2.0 \cdot 10^{-4}$ . There are 5 figures and 9 Soviet-bloc references. ✓

Card 3/4

Complex compounds of ...

S/078/61/006/005/005/015  
B121/B208

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S.  
Kurnakova Akademii nauk SSSR  
(Institute of General and Inorganic Chemistry imeni N. S.  
Kurnakov of the Academy of Sciences USSR)

SUBMITTED: September 29, 1960

ZVIAGINTSEV, O.Ye.; STAROSTIN, S.M. [deceased]

Complex ruthenium acidonitroso compounds. Zhur.neorg.khim. 6  
no.6:1281-1290 Je '61. (MIRA 14:11)  
(Ruthenium compounds) (Nitroso compounds)

Extraction of gold hydrocyanic acid with n-trioctylamine. Zhur.neorg.  
khim. 6 no.8:1978-1979 Ag '61. (MIRA 14:8)  
(Hydrocyanic acid) (Gold compounds) (Trioctylamine)



EVYAGINTSEV, Oleg. GRUBCHIKINA, Irina.

Kinetics of interaction between tetravalent platinum tetramines  
and ammonia and ammonia and pyridine. Zhur.neorg.khim. 6 no.9:  
2029-2037 5 '61. (MIRA 14:9)  
(Platinum compounds) (Ammonia) (Pyridine)

Electrolytic reduction of some ruthenium acidonitroso compounds.  
Zhur.neorg.khim. 6 no.9:2216-2218 S '61. (MIRA 14:9)  
(Ruthenium compounds) (Reduction, Electrolytic)

ZVYAGINTSEV, O.Ye.; KHROMENKOV, L.G.

Complex compounds of thorium with tetrahydroxyadipic acid. Zhur.-  
neorg.khim. 6 no.12:2663-2671 D '61. (MIRA 14:12)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN  
SSSR.

(Thorium compounds) (Adipic acid)

Fifth conference on the analysis of noble metals. Zhur. anal.  
khim. 16 no. 1:119 Ja-F '61. (MIRA 14:2)  
(Metals, Rare and minor--Congresses)

Extraction of gold from cyanide solutions obtained in ore treatment  
with n-trioctylamine. Zhur. prikl. khim. 34 no. 12:2601-2605 D '61.

(MIRA 15:1)

(Gold ores) (Cyanide process)

[Ruthenium and osmium; bibliography covering the period 1804 -  
1960] Rutenii i osmii; bibliograficheskii ukazatel' literatury,  
1804-1960. Moskva, Izd-vo Akad. nauk SSSR, 1962. 250 p.  
(MIRA 15:6)

1. Akademiya nauk SSSR. Sektor seti spetsial'nykh bibliotek.  
(Bibliography--Ruthenium) (Bibliography--Osmium)

New books on the technology of uranium and artificial radioactive  
elements. Zhur.prikl.khim. 35 no.1:230-231 Ja '62. (MIRA 15:1)  
(Uranium) (Radioactive substances)

ZVIAGINTSEV, O.Ye.; TIKHONOV, V.P.

Comments on the article by O.E.Zviagintsev and V.P.  
Tikhonov: "Reaction of praseodymium and neodymium  
nitrates with hydroxymalonic acid." Zhur.neorg.khim.  
10 no.8:1954 Ag '65. (MIRA 19:1)



ZVYAGINTSEV, O.Ye.; SINITSYN, N.M.; PICHKOV, V.N.

Effect of the nature of the acid on the extraction of  
ruthenium in the  $[\text{RuNo}(\text{NO}_2)_4\text{OH}]^{2-}$  form. Zhur.neorg.khim.

11 no.1:198-200 Ja '66.

(MIRA 19:1)

1. Submitted December 10, 1964.

SINITSYN, N.M.; ZVIAGINTSEV, O.Ye.

Hydrolysis of  $(\text{NH}_4)_2[\text{R}_u\text{NOO}_1_5]$ . Zhur.neorg.khim. 11  
no.1:200-202 Ja '66. (MIRA 1911)

1. Submitted December 14, 1964.

Cis effect in complex platinum (IV) compounds. Zhur. neorg.  
khim. 10 no.5:1033-1037 My '65. (MIRA 18:6)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova  
AN SSSR i Institut neorganicheskoy khimii Sibirskogo otdeleniya  
AN SSSR.

ZVIAGINTS V. Orest Yevgen'yevich; SOLOV'YEV, Yuriy Ivanovich;  
STAROSEL'SKIY, Pavel Isaakovich

Lev Aleksandrovich Chuganov. Moskva, 1965. 197 p.  
(MIRA 18:9)

"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065720010-8  
APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065720010-8"  
ZHEV, O.I.; FRODOV, Yu.G.; CHEN' TSZIN' BAN; VAL' KOV, A.V.

Extraction of sulfuric acid and uranyl sulfate with N-alkylanilines.  
Zhur.neorg.khim. 10 no.4:981-985 Ap '65.  
(MIRA 18:6)

ZVIAGINISEV, O.Ye.; TIKHONOV, V.P.

Reaction of thorium and rare-earth elements with tartaric acid  
when present together. Zhur.neorg.khim. 10 no.4:994-996 Ap '65.  
(MIRA 18:6)

1. Moskovskiy ordena Lenina khimiko-tehnologicheskoy institut  
imeni Mandeleeva.

ZVIAGINTSEV, O.Ye.; TIKHONOV, V.P.

Mechanism of the reaction of praseodymium nitrate with tartaric acid. Zhur. neorg. khim. 9 no.12:2789-2791 D '64.

(MIRA 18:2)

1. Moskovskiy ordena Lenina khimiko-tekhnologicheskii institut imeni D.I. Mendeleyeva.

Extraction of complex ruthenium nitrosopentahalides with aliphatic amines. Dokl. AN SSSR 160 no.2:370-372 Ja '65.

(MIRA 18:2)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova  
AN SSSR. Submitted July 8, 1964.



ZVYAGINTSEV, Orest Yevgen'yevich, prof., doktor khim. nauk;  
AVTOKRATOVA, Tat'yana Dmitriyevna, kand. khim. nauk, dots.;  
GORUNOV, Anatoliy Alekseyevich, kand.khim. nauk, assistant;  
KOLBIN, Nikolay Ivanovich, kand.khim.nauk, dots.; RYABOV,  
Al'ber Nikolayevich, kand. khim. nauk, assistant; KORCHEMNAYA,  
Ye.K., red.

[Chemistry of ruthenium] Khimiia rutenia. [By] O.E.Zviagin-  
tsev i dr. Moskva, Nauka, 1965. 299 p. (MIRA 18:6)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhda-  
nova (for Kolbin, Ryabov, Gorunov). 2. Moskovskiy institut  
stali i splavov(for Avtokratova).

ZVYAGINTSEV, O.Ye.; SINITSYN, N.M.; PICHKOV, V.N.

Extraction of  $\text{Na}_2[\text{RuNO}(\text{NO}_2)_4\text{OH}]\cdot 2\text{H}_2\text{O}$  by means of aliphatic amines.  
Radiokhimiia 6 no.5:619-621 '64. (MIRA 18:1)

Second birth of ruthenium. Priroda 54 no.5:71-74 My '65.  
(MIRA 18:5)

GINZBURG, Susanna Il'ichna; GLADYSHEVSKAYA, Klavdiya Antonovna;  
YEZERSKAYA, Natal'ya Anatol'yevna; IVONINA, Ol'ga  
Mikhaylovna; PROKOF'YEVA, Irina Vasil'yevna; FEDORENKO,  
Nina Vladimirovna; FEDOROVA, Aleksandra Nikolayevna;  
ZVIAGINTSEV, O.Ye., doktor khim. nauk, otv. red.;  
VOLYNETS, M.P., red.

[Manual on the chemical analysis of platinum metals and  
gold] Rukovodstvo po khimicheskoiu analizu platinovykh me-  
tallov i zolota. Moskva, Nauka, 1965. 312 p.

(MIRA 18:2)

ZVYAGINTSEV, O.Ye.

Ninth All-Union Conference on the chemistry of complex  
compounds. Zhur. neorg. khim. 9 no.7:1776-1778 J1 '64.  
(MIRA 17:9)

ZVYAGINTSEV, O.Ye.; TIKHONOV, V.P.

Interaction of praseodymium and neodymium nitrates with tartaric acid. Zhur. neorg. khim. 9 no.7:1588-1596 J1 '64.

Interaction of praseodymium and neodymium nitrates with hydroxymalonic acid. Ibid.:1597-1605 (MIRA 17:9)

1. Moskovskiy ordena Lenina khimiko-tekhnologicheskoy institut imeni Mendeleyeva.

ACCESSION NR: AP4041580

S/0078/64/009/007/1597/1605

AUTHOR: Zvyagintsev, O. Ye.; Tikhonov, V. P.

TITLE: Interaction of praseodymium and neodymium nitrates with oxymalonic acid.

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 7, 1964, 1597-1605

TOPIC TAGS: praseodymium nitrate oxymalonic complex, neodymium nitrate oxymalonic complex, praseodymium nitrate, neodymium nitrate, oxymalonic acid, rare earth ion

ABSTRACT: The present work was undertaken to provide a verification of an earlier conclusion by the same authors that the stability of cation complexes of oxycarboxylic acids with ions of rare earths in an acid medium as well as the differential between instability constants of these complexes for neighboring rare earths should increase with decreasing distance between carboxyl groups. Applying physico-chemical methods of preparative chemistry, interaction of praseodymium and neodymium nitrates with oxymalonic acid was studied for a wide pH range. The earlier suggested mechanism of trivalent rare earths interaction with dicarboxylic oxyacids has been confirmed. It has been established that the pH of the medium has a decisive influence on rare earth complex formations with oxyacids. The influence of

Card

1/2

ACCESSION NR: AP4041580

excess reagent addition is slight. It has been proven that with decreasing distance between the carboxylic groups, both the complex stability and the difference between instability constants increase. Successive dissociation constants,  $K_1$  and  $K_2$  for oxymalonic acid have been calculated, as well as the instability constants of cationic oxymalonic complexes of praseodymium and neodymium. For the first time the following compounds of praseodymium and neodymium with oxymalonic acid were prepared:  $\text{Pr}_2(\text{C}_3\text{H}_2\text{O}_5)_3 \cdot 3\text{H}_2\text{O}$ ;  $\text{Nd}_2(\text{C}_3\text{H}_2\text{O}_5)_3 \cdot 3\text{H}_2\text{O}$ ;  $[\text{PrC}_3\text{HO}_5 \cdot 3\text{H}_2\text{O} / \cdot 2\text{H}_2\text{O}]$ ;  $[\text{NdC}_3\text{HO}_5 \cdot 3\text{H}_2\text{O} / \cdot 2\text{H}_2\text{O}]$ . Their composition has been determined, some properties studied and tentative structural formulas proposed. It has been noted that the neodymium compounds are somewhat more stable than those of praseodymium. Orig. art. has: 8 figures, 17 formulas, 2 tables.

ASSOCIATION: Moskovskiy ordena Lenina khimiko-tekhnologicheskii institut im. D. I. Mendeleeva (Moscow "order of Lenin" Institute of Chemical Technology)

SUBMITTED: 18Jul63

DATE ACQ: 00

ENCL: 00

SUB CODE: IC

NO REF SOV: 004

OTHER: 001

Card 2/2



PICHKOV, V.N.; SINITSYN, N.M.; ZVYAGINTSEV, O.Ye.

Nitrosoruthenium compound  $[RuNO(NO_2)_2(NH_3)(OH)]$ . Dokl. AN  
SSSR 156 no. 4:891-893 Je '64. (MIRA 17:6)

1. Institut obshchey i neorganicheskoy khimii im. N.S.  
Kurnakova AN SSSR. Predstavleno akademikom I.I.Chernyayevym.

Bond strength of the nitroso group in ruthenium compounds. Zhur,  
neorg. khim. 8 no.8:1988-1989 Ag '63. (MIRA 16:8)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova  
AN SSSR.

(Ruthenium compounds) (Nitroso group)

SINITSYN, N.M.; ZVYAGINTSEV, O.Ye.

Effect of outer-space cations on the stability of ligand bonds  
in complex compounds. Zhur. neorg. khim. 8 no.10:2329-2333 ) '63.  
(MIRA 16:10)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova  
AN SSSR.

(Complex compounds) (Chemical bonds)

ZVIAGINTSEV, O.Ye.; GONCHAROV, Ye.V.

Interaction of praseodymium chloride with glycine and -alanine.  
Zhur.neorg.khim. 8 no.2:349-359 F '63. (MIRA 16:5)  
(Praseodymium chloride) (Glycine) (Alanine)

ZVIAGINTSEV, O.Ye.; GONCHAROV, Ye.V.

Neodymium hydroxyoxoglycinate and hydroxyoxoalaninate. Zhur.neorg.khim.  
8 no.3:769-770 Mr '63. (MIRA 16:4)  
(Neodymium compounds) (Glycine) Alanine)

ZYAGINTSEVA, O.Ye.

Scientific conference devoted to the 25th anniversary of the  
Tashkent Pharmaceutical Institute. Zhur.neorg.khim. 8 no.4:  
1027 Ap '63. (MIRA 16:3)  
(Complex compounds--Congresses)  
(Chemistry, Medical and pharmaceutical--Congresses)

ZVIAGINSEV, O.Ye.; SHUBOCHINA, Ye.F.

Reaction kinetics of platinum (IV) nitrohalotetramines with ammonia and  
pyridine. Zhur.neorg.khim. 8 no.3:590-596 Mr '63. (MIRA 16:4)  
(Platinum compounds) (Ammonia) (Pyridine)

Seventh International Conference on Coordination Chemistry.  
Zhur.neorg.khim. 7 no.12:2820-2822 D '62. (MIRA 16:2)  
(Sweden—Complex compounds—Congresses)



GENKIN, A.D.; ZVIAGINTSEV, O.Ya.

"Vyssotskite," a new sulfide of palladium and nickel. Zap.Vses.  
min.ob-va 91 no.6:718-725 '62. (MIRA 16:2)

1. Institut geologii rudnykh mestorozhdeniy, petrografii,  
mineralogii i geokhimii AN SSSR i Institut obshchey i neorgani-  
cheskoy khimii AN SSSR, Moskva.  
(Sulfides) (Palladium) (Nickel)

ZVIAGINTSEV, O.Ye.; GONCHAROV, Ye.V.

Interaction of neodymium chloride with  $\alpha$ -alanine. Zhur.  
neorg. khim. 7 no.8:1892-1901 Ag '62. (MIRA 16#6)

(Neodymium chloride) (Alanine)

ZVYAGINTSEV, O.Ye.; GONCHAROV, Ye.V.

Interaction of neodymium chloride with glycine. Zhur. neorg.  
khim. 7 no.8:1880-1891 Ag '62. (MIRA 16:6)

(Neodymium chloride) (Glycine)

OVENIKOV, O.E.

"Jakob Berzelius" by IU.I. Solov'ev, V.I. Kurinnoi. Reviewed  
by O.E. Zviagintsev. Priroda 51 no.7:124 JI '62. (MIRA 15:9)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova,  
Moskva.

(Berzelius, Jöns Jakob, Friherre, 1779-1848)  
(Solov'ev, IU.I.) (Kurinnol, V.I.)

AUTHORS: Zvyagintsev, O. Ye., Shubochkina, Ye. F. SOV/78-3-9-35/38

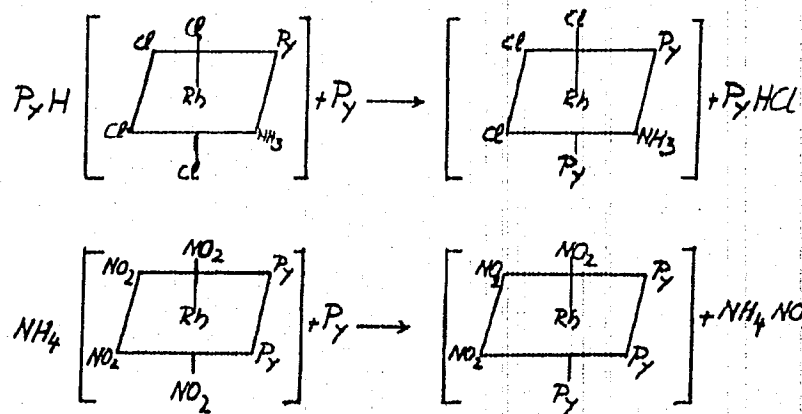
TITLE: An Investigation Into the Kinetics of Reaction of Complex Rhodium Compounds (Izucheniye kinetiki reaktsiy kompleksnykh soyedineniy rodiya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 9, pp 2214-2216 (USSR)

ABSTRACT: In order to explain the effect of trans-influence in rhodium complexes, the kinetics of the exchange reaction in rhodium compounds was examined. The reactions were carried out with the rhodium amines  $\text{PyH}[\text{RhCl}_4\text{NH}_3\text{Py}]$  and  $\text{NH}_4[\text{Rh}(\text{NO}_2)_4\text{Py}_2]$  with the reactive coordinates  $\text{Cl-Rh-Cl}$  and  $\text{NO}_2\text{-Rh-NO}_2$ .  
In the interaction of rhodium amines with pyridine only an exchange of pyridine takes place by an acid group which is in a trans-position to the other. The result of these exchange reactions are compounds that correspond to the following equations:

SOV/78-3-9-35/38

# An Investigation Into the Kinetics of Reaction of Complex Rhodium Compounds



The values of K, E and lg Z were determined for the compound  $\text{PyH}[\text{RhCl}_4\text{NH}_3\text{Py}]$ . The kinetic characteristics are similar to those of platinum-(IV)-compounds. There are 1 table and 4 references, 4 of which are Soviet.

AUTHORS: Zvyagintsev, O. Ye., Kurbanov, A. SOV/78-3-10-13/35

TITLE: Electrolytic Reduction of Some Nitroso Compounds of Ruthenium  
(Elektroliticheskoye vosstanovleniye nekotorykh nitrozo-soyedineniy ruteniya)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 10, pp 2305-2308  
(USSR)

ABSTRACT: The electrolytic reduction of nitroso compounds of ruthenium was analyzed in order to ascertain the state of valency of ruthenium compounds. The method of electrolytic reduction was applied because no impurities are involved in it. An investigation was carried out of the electrolytic reduction of compounds of nitroso-sulfate ruthenium, nitroso-nitrate ruthenium, nitroso-oxalate ruthenium and nitroso-acetate ruthenium. In the electrolytic reduction of compounds of nitroso-oxalate ruthenium with the formula  $H_2[RuNO(C_2O_4)_2]$  three jumps appear in the reduction curves. The first indicates the reduction of the NO-group, the second indicates the reduction of Ru-(II) to Ru-(I) and the third indicates the reduction of Ru-(I) to Ru. The electrolytic reduction of nitroso-nitrate ruthenium with the formula  $RuNO(NO_3)_2$

Card 1/2

SOV/78-3-10-13/35

# Electrolytic Reduction of Some Nitroso Compounds of Ruthenium

shows only one jump in the reduction curve, probably in the reduction of  $\text{NO}_2$ . The electrolytic reduction of nitroso-acetate ruthenium shows also three jumps in the reduction curve. The first of them is probably not caused by the reduction of the  $\text{NO}$ -group, but by the  $\text{CH}_3\text{COO}^-$  ion.

There are 3 figures and 14 references, 4 of which are Soviet.

SUBMITTED: April 28, 1958



AUTHORS: Zvyagintsev, O. Ye., Kubranov, A. SOV/78-3-10-33/35

TITLE: On the Character of the Linkage of Ruthenium to NO-Group in Nitroso Compounds ( O kharaktere svyazi ruteniya s NO-gruppoy v nitrozosoyedineniyakh)

PERIODICAL: Zhurnal neorganicheskoy khimii , 1958, Vol 3, Nr 10, pp 2424-2427 (USSR)

ABSTRACT: For the production of ruthenium nitrosochloride -  $H [ RuNOCl_3 \cdot 2H_2O ]$  - a method of the solution of ruthenium oxide in hydrochloric acid was described, to which a considerable quantity of NO is added simultaneously. The reduction of the NO-group to the  $NH_2$ -group by means of zinc is connected with color change.  $RuNH_2Cl \cdot H_2O$  is the final product. This compound is a brown powder which is insoluble in water and organic solvents, but easily dissolves in diluted acids. The compound is paramagnetic with the magnetic susceptibility ( $\chi_2 = -0,203 \cdot 10^{-6}$ ). During the reduction of ruthenium nitrosochloride three jumps in potential take place. The first jump corresponds to the reduction of the NO-group, the second indicates the reduction of  $Ru^{II} \rightarrow Ru^I$ , the third

Card 1/2

On the Character of the Linkage of Ruthenium to  
NO-Group in Nitroso Compounds

SOV/78-3-10-33/35

indicates the reduction of  $Ru^{I} \rightarrow Ru$ . The potentiometric curve of the reduction of ruthenium amidochloride shows only one jump, which indicates the reduction of monovalent ruthenium to ruthenium metal. The linkage of ruthenium to the NO-group in nitroso compounds of ruthenium is caused by the nitrogen atom. There are 1 figure, and 8 references, 8 of which are Soviet.

SUBMITTED: May 28, 1958

AUTHORS: Kyrsh, M., Zvyagintsev, O. Ye. SOV/78-3-11-23/23

TITLE: On the Mechanism of the Inclusions of Microquantities of Cesium Berlin Blue (O mekhanizme zakhvata mikrokolichestv tseziya berlinskoy lazur'yu)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 11, pp 2582-2592 (USSR)

ABSTRACT: The mechanism of the coprecipitation of microquantities of the cesium-iron-II-cyanide was investigated. The influence of the nature of the cations on the solubility of the ferrocyanide was investigated. The influence of the ratio of  $\text{Fe}(\text{CN})_6^{4-} : \text{Fe}^{3+}$  on the coprecipitation of cesium was investigated as well. The authors conclude from the results that the quantity of the coprecipitated cesium depends to an only small extent on the ratio of the reagents and that the coprecipitation of cesium is above all due to the formation of mixed crystals or solid solutions, respectively. The investigations of the influence of the various additions on the coprecipitation of cesium as cesium ferrite cyanide showed that several cations exercise a great influence on the coprecipitations. The co-

SOV/78-3-11-23/23

# On the Mechanism of the Inclusions of Microquantities of Cesium Berlin Blue

precipitation isothermal lines of the cesium Berlin blue were plotted (Fig 2). Additional experiments were carried out in order to explain the mechanism of the coprecipitation of the cesium Berlin blue. It was shown that in the case of an addition of cesium to finished Berlin blue sol the quantity of the coprecipitated cesium is smaller than in the case of the formation of sol in the case of the presence of cesium, i. e. the coprecipitation of cesium is much greater in the formation of Berlin blue sol. The coprecipitation of cesium with Berlin blue was investigated as well in the precipitation in a homogeneous medium. The system ferrocyanide tartrate was used for the precipitation in homogeneous medium. It was shown that the coprecipitation of cesium with Berlin blue in the homogeneous medium amounts to 99,97%, and in the case of a rapid formation of the precipitation to 99,86%. The coprecipitation effect of cesium with Berlin blue offers the possibility of a practical application of this method for the coprecipitation of cesium from diluted solutions. By means of this method of ion exchange the difference between the surface adsorption and the coprecipitation was detected. The increase in the cesium quantity in the precipitation of Berlin blue does not increase

On the Mechanism of the Inclusions of Microquantities of Cesium Berlin Blue  
SOV/78-3-11-23/23  
the dispersion of the precipitation.  
There are 5 figures, 6 tables, and 16 references, 6 of which  
are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D. I.  
Mendeleeva (Moscow Institute of Chemical Technology imeni  
D. I. Mendeleev) Voennoy tekhnicheskoy akademii im.  
A. Zapototskogo (g. Brno) ((Brno) Technical Military Academy  
imeni A. Zapototskiy)

SUBMITTED: April 20, 1958

AUTHORS: Zvyagintsev, O. Ye., Kurbanov, A. SOV/78-3-12-12/36

TITLE: Concerning the Degrees of Oxidation of Ruthenium in Acid Nitroso Compounds (O stepenyakh okisleniya ruteniya v atsidonitroso-soyedineniyakh)

PERIODICAL: Zhurnal neorganicheskoy khimii, 1958, Vol 3, Nr 12, pp 2662-2665 (USSR)

ABSTRACT: The step-wise oxidation of ruthenium in nitroso-oxalates, nitrates, and acetates with potassium permanganate was investigated using the potentiometric method. By these investigations it was possible to determine the valence state of ruthenium in the following acid nitroso compounds:  $H_2[RuNO(C_2O_4)_2]$ ; ruthenium nitroso nitrate -  $RuNO(NO_3)_2 \cdot 3H_2O$ ; and sodium ruthenium nitrosotriacetate -  $Na[RuNO(CH_3COO)_3] \cdot H_2O$ . In the oxidation potentiometric curve for  $H_2[RuNO(C_2O_4)_2]$  there were found five clear and definite jumps in potential, indicating the oxidation of ruthenium from  $Ru^{2+}$  to  $Ru^{8+}$ . The last jump indicates the oxidation of the  $(C_2O_4)^{2-}$  group. The end-product

Card 1/2

SOV/78-3-12-12/36

Concerning the Degrees of Oxidation of Ruthenium in Acid Nitroso Compounds

of the oxidation is  $\text{RuO}_4$ . On the oxidation curve for  $\text{RuNO}(\text{NO}_3)_2 \cdot 3\text{H}_2\text{O}$  were found potential jumps corresponding to the oxidation of  $\text{Ru}^{2+}$  to  $\text{Ru}^{8+}$ . The end-product of this reaction is  $\text{RuO}_4$ . The potentiometric oxidation titration curve for  $\text{Na}[\text{RuNO}(\text{CH}_3\text{COO})_3] \cdot \text{H}_2\text{O}$  is characterized by four jumps in potential, indicating the oxidation of ruthenium from  $\text{Ru}^{2+}$  to  $\text{Ru}^{8+}$ . The end-product is again  $\text{RuO}_4$ . The ruthenium in all the acidonitroso compounds investigated was divalent. There are 5 figures and 5 references, 3 of which are Soviet.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova  
Akademii nauk SSSR (Institute of General and Inorganic Chemistry  
imeni N. S. Kurnakov of the Academy of Sciences, USSR)

SUBMITTED: July 17, 1958

Card 2/2

AUTHOR: Zvyagintsev, O. Ye. 75-13-2-23/27

TITLE: IVth Congress on the Analysis of Precious Metals  
(IV Soveshchaniye po analizy blagorodnykh metallovo)

PERIODICAL: Zhurnal Analiticheskoy Khimii, 1958, Vol. 13, Nr 2  
pp. 260-260 (USSR)

ABSTRACT: The IVth Congress on the Analysis of Precious Metals which was called by the Institute for General and Inorganic Chemistry imeni N.S. Kurnakov AS USSR (Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova Akademii nauk SSSR) and by the Plant for Processing Precious Metals (Zavod po obrabotke blagorodnykh metallovo) in collaboration with the Ministry for Finances of the USSR, the Ministry for the Metallurgy of Nonferrous Metals of the USSR and with the Ural House of Technical Engineering (Ural'skiy dom tekhniki) took place at Sverdlovsk from May 20 to May 23, 1957. This congress was attended by 111 delegates and 32 organizations; 35 lectures and reports were attended. A group of reports was devoted to problems relating

Card 1/4



IVth Congress on the Analysis of Precious Metals

75-13-2-23/27

to technical methods of analysis. N. K. Pshenitsyn and I. V. Prokofyeva; Kh. I. Tsybulevskiy and I. N. Firsova as well as representatives of various factories (M.S. Usovoy and others) were the authors who delivered these lectures. Some reports dealt with volumetric methods (A. A. Grinberg and A. I. Dobroborskaya; M. A. Chentsova, T. P. Yufa and V. G. Levian and others). A special meeting was devoted to spectroscopic methods. Problems of the determination of all precious metals and certain admixtures in concentrates, melts, ores and other objects were dealt with in the reports delivered by V. P. Khrappay, V. L. Ginzburg, A. D. Gut'ko and N. N. Pankratova, A. D. Kuranov, N. P. Ruksha and M. M. Sviridova. Some reports (S. M. Anisimov, K. A. Pomytov and Ye. I. Nikitina, N. I. Chentsova) dealt with problems of the preparation of poor samples for the spectroscopic analysis. The problem of the applicability of test- methods for the determination of rhodium, iridium and ruthenium in ores and other products raised discussion. A report delivered by S. K. Shabarin and I. D. Fridman dealt with this field. The 4

Card 2/4

IVth Congress on the Analysis of Precious Metals

75-13-2-23/27

reports delivered by the following authors: N. K. Pshenitsyn, N. A. Yezerskaya and V. D. Ratnikova; Ye. K. Kuznetsova; S. M. Anisimov, V. M. Klypenkov, P. G. Shulakov, V. N. Alyanchikova and P. A. Gurin; Yu. S. Lyalikov and M. B. Bardin dealt with polarographic methods and the application of ion-exchange. A series of reports dealt with spectrophotometric and photocolometric methods of analysis. V. K. Levian and T. P. Yufa, N. K. Pshenitsyn, S. I. Ginzburg and L. G. Sal'skaya, V. N. Aleksandrov and V. F. Barkovskiy were the authors. 2 reports were delivered by V. B. Avilov. The lectures delivered by V. V. Kosova and S. M. Anisimov, V. M. Klypenkov and V. P. Tsimbal were devoted to the electrometric determination of silver in melts and factory products. M. S. Ruzhnikov delivered a report dealing with the method of determination of a gold test on a touchstone. The last group of reports dealt with physical methods of analysis. A. A. Rudnitskiy, A. P. Adakhovskiy and V. M. Karbolin, A. I. Kulak and O. Ye. Zvyagintsev, Z. M. Turovtseva were the authors of this group. Concluding, a report delivered by the repre-

Card 3/4

IVth Congress on the Analysis of Precious Metals

75-13-2-23/27

sentative of the Ministry of Finances of the USSR, D. G. Grebenkin, was attended.

The congress decided on a resolution in which a series of progress and errors in the analysis of precious metals within the last 2 1/2 years is noticed. The congress also pointed out the ways of further work in this field. Moreover, a resolution for the prompt publication of these works was decided on.

1. Metals--Analysis

PSHENITSYN, N.K., otv.red.; ZVYAGINTSEV, O.Ye., doktor khim.nauk, otv.  
red.; LEVI, T.G.; red.; LEVI, T.G.; red.izd-va; TRIFONOV, D.N.,  
red.izd-va; GUSEVA, I.N., tekhn.red.

[Analysis of noble metals] Analiz blagorodnykh metallov.  
Moskva, Izd-vo Akad.nauk SSSR, 1959. 193 p. (MIRA 12:10)

1. Akademiya nauk SSSR. Institut obshchey i neorganicheskoy  
khimii. 2. Chlen-korrespondent AN SSSR (for Pshenitsyn).  
(Platinum group) (Gold compounds) (Silver compounds)

PHASE I BOOK INFORMATION 807/5084

International Conference on the Peaceful Uses of Atomic Energy. 2d, Geneva, 1958.  
 Radiolytically sensitive substances. [4.] Radiolytically sensitive substances: their properties and their uses in the chemical industry. (Report of Soviet Scientists. V. 4.: Chemistry of Radioactive Elements and Radiation Transformations) Moscow, Atomizdat, 1959. 283 p.  
 8,000 copies printed. (Series: Ito; Trudy)

Ed. (Title page): A. P. Vinogradov, Academician; Ed.: V. I. Labanov, Tech. Ed.:  
 Yu. I. Maslov.

**PURPOSE:** This collection of articles is intended for scientists and engineers interested in the applications of radioactive materials in science and industry.

**CONTENTS:** The book contains 26 separate studies concerning various aspects of the chemistry of certain radioactive elements and the processes of radiation effect on matter. These reports discuss present-day methods of reprocessing irradiated nuclear fuel, research in the chemistry of uranium, thorium, uranium, plutonium, and americium, problems related to the sorption and burying of radioactive wastes, the radiolysis of aqueous solutions and of organic compounds, the mechanism of polymer chain grafting, and the effect of radiation on natural and synthetic rubbers. V. N. Prusakov edited the present volume. Most of the reports are accompanied by references. Contributions to individual investigations are mentioned in annotations to the Table of Contents.

**Almichukova, I. D., L. L. Dvornikova, L. F. Klyis, V. V. Pech, and N. M. Chubakov.** Production and Properties of Several Heavy Fluorides of Uranium: Fluorination (Report No. 2208) 157

**Taborsky, G. A., and V. N. Korshak.** Investigations on the Chemistry of Americium (Report No. 2207) 157  
 [In S. Gornbo-Gormakov is mentioned as having supplied the material for the second section of this study.]

**Gornbo-Gormakov, G. Ye., V. D. Nikol'skiy, S. M. Shadrin, A. Kuznetsov, and G. A. Taborsky.** Contribution to the Chemistry of Radioactive Ruthenium (Report No. 2145) 166

**Shadrin, V. L., V. D. Nikol'skiy, A. P. Rumyantsev, V. V. Gromov, P. M. Shadrin, G. A. Taborsky, and G. A. Kuznetsov.** Study of the Migration of Radioactive Elements in Soils (Report No. 2207) 174

**Yakovlev, S. A., G. A. Barada, P. P. Dolgikh, and L. I. Bakker.** Separation of Low-Activity-Content and Low-Activity Waste Waters from Radiochemical Plants (Report No. 2024) 189

**Mol'shakova, L. A., A. T. Andolina, V. A. Kuznetsov, V. V. Gromov, and G. A. Taborsky.** Experimental Plant for Purification of Laboratory Waste Waters Contaminated with Radioactive Elements (Report No. 2025) 194

**Agapov, V. G., and Ye. M. Kuznetsov.** On the Possibility of Relying Radiometric Methods in Deep-sea Investigations of the Ocean (Report No. 2026) 204

**Prokhorova, M. A., and Ye. M. Kuznetsov.** Investigations into the Separation of Radioactive Elements from Aqueous Solutions (Report No. 2027) 211

**Labanov, V. I., and V. I. Kuznetsov.** Investigations into the Separation of Radioactive Elements from Aqueous Solutions (Report No. 2028) 211  
 [The investigations were carried out at the Laboratory of Radiochemical Separation of the Institute of Chemistry of the Academy of Sciences of the USSR, under the direction of M. A. Prokhorova, V. D. Agapov, Ye. M. Kuznetsov, and A. I. Chernov. The data on oxidation-reduction reactions leading to the separation of radioactive elements from aqueous solutions under the effect of gamma-radiation were obtained from investigations made at the Laboratory of Radiochemical Separation of the Institute of Chemistry of the Academy of Sciences of the USSR, under the direction of Ye. M. Kuznetsov, M. A. Prokhorova, and G. A. Taborsky. The following are mentioned as having made a study of complex reactions such as the formation of dyes from amino bases: V. I. Kuznetsov, A. A. Kuznetsov, L. I. Maslov, Ye. M. Kuznetsov, and M. Ye. Shadrin.]

**Labanov, V. I., and V. I. Kuznetsov.** Radiolysis of Radioactive Compounds (Report No. 2029) 229  
 [The following are mentioned: M. A. Prokhorova and V. I. Maslov.]

31  
 229

ZVIAGINTSEV, O.Ye.; SHAMAYEV, V.I.

Radioactivation analysis applied to the determination of microimpurities in tellurium. Radiokhimiia 1 no.6:717-723  
'59. (MIRA 13:4)

(Tellurium--Analysis) (Metals--Analysis)

5(4)

AUTHORS:

Kirš, M., Zvyagintsev, O. Ye.

SOV/78-4-1-39/48

TITLE:

Investigation of the Co-Precipitation of Micro-Quantities of Caesium With Berlin Blue by the Method of Sudden Precipitation  
(Issledovaniye soosazhdeniya mikrokolichestv tseziya s berlinskoy lazur'yu metodom mgovernogo soosazhdeniya)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 1, pp 227-229 (USSR)

ABSTRACT:

The above method for the co-precipitation of micro-quantities of caesium showed that co-precipitation is not dependent on caesium being contained in one or the other of the two solutions. The dependence of the constant according to V. G. Khlopin on the amount of the solid phase which is formed on sudden precipitation was determined. The results are shown in table 2. The values of the Khlopin constant D depend on the concentration of iron (III) in the solution. Several rules governing the formation of anomalous mixed crystals were confirmed. By the method of sudden co-precipitation the co-precipitation isotherm of caesium with Berlin blue was obtained. The experimental data are in accordance with the equation by Kirgintsev (Ref 7):

Card 1/3

SOV/78-4-1-39/48

Investigation of the Co-Precipitation of Micro-Quantities of Caesium With  
Berlin Blue by the Method of Sudden Precipitation

$$\frac{\Gamma}{c} = B(\Gamma_{\infty} - \Gamma)^{1/m} \quad \left[ \frac{G}{c} = V(G_{\infty} - G)^{1/m} \right]$$

where B and  $\Gamma_{\infty}$  = constants,  $\Gamma$  = concentration of the micro-  
component in the solid phase, c = concentration of the  
microcomponent in the solution, m = number of atoms which  
form the molecule of the microcomponent (according to  
Kirgintsev).

There are 1 figure, 2 tables, and 8 references, 6 of which  
are Soviet.

ASSOCIATION: Moskovskiy khimiko-tekhnologicheskii institut im. D. I.  
Mendeleyeva (Moscow Chemical-Technological Institute imeni  
D. I. Mendeleyev) Voyennaya akademiya im. A. Zapototskogo  
(Brno) (Military Academy imeni A. Zapototsky (Brno))

Card 2/3



SOV/78-4-4-26/44

5(4), 21(7)  
AUTHORS:

Zvyagintsev, O. Ye., Kuznetsov, V. A.

TITLE:

On Complex Compounds of Hexavalent Uranium With Hydroxylamine  
(O kompleksnykh soyedineniyakh shestivalentnogo urana s gidroksilaminom)

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 4, pp 866-868  
(USSR)

ABSTRACT:

The authors investigated the complex formation of hexavalent uranium with hydroxylamine in dependence of the pH value of the solution. When mixing a solution of uranyl nitrate with a neutral solution of hydroxylammonium chloride or hydroxylammonium sulphate with a pH value of 8 and more, uranium is retained as a complex in the solution. At  $\text{pH} < 8$  yellow, difficultly soluble crystals are formed. These crystals are insoluble in some organic solvents. The formula  $[\text{NH}_3\text{OH}]_2\text{UO}_4 \cdot \text{H}_2\text{O}$  resulted from the analysis. The complex solution of hydroxylammonium uranate ( $\text{pH} \geq 8$ ) remains stable for several months. From these solutions uranium cannot be reduced or precipitated even by the action of alkali liquor at high temperatures. In the case of a large ex-

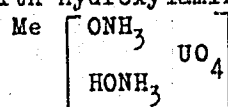
Card 1/3

SOV/78-4-4-26/44

# On Complex Compounds of Hexavalent Uranium With Hydroxylamine

cess of hydroxylamine and a pH value of 9.5 light absorption corresponds to the Lambert-Bear law. With the action of methanolic hydroxylamine on an alcoholic solution of uranyl nitrate an amorphous precipitation of the composition  $[\text{NH}_3\text{OH}]_2\text{UO}_4$  occurs.

The authors synthesized alkali salts of the uranyl-hydroxylamine compounds in a ratio of  $\text{Me} : \text{U} : \text{NH}_2\text{OH} = 1 : 1 : 2$  (Me - the ion of the alkali metal). Further, the authors prepared the similar uranyl compounds with hydrazine, mono-, di-, and trimethylamine, di-, mono-, and triethylamine as well as ethylenediamine. No detailed experiments were made with this compounds. The following formula is suggested for soluble complex compounds of the uranyl ion with hydroxylamine:



The dilute aqueous solutions of pure compounds of this composition can be hydrolyzed with the formation of sodium uranate. The authors investigated some properties of the compounds such as solubility, density, and electric conductivity. The electric

On Complex Compounds of Hexavalent Uranium With Hydroxylamine

SOV/78-4-4-26/44

conductivity of the compounds with Me = Na, K is given in a table. There are 1 figure, 1 table, and 7 references, 1 of which is Soviet.

SUBMITTED: November 5, 1958

5(2)

AUTHOR: Zvyagintsev, O. Ye.

SOV/78-4-9-43/44

TITLE: The 8th Mendeleev Congress on General and Applied Chemistry

PERIODICAL: Zhurnal neorganicheskoy khimii, 1959, Vol 4, Nr 9, pp 2178-2182 (USSR)

ABSTRACT: The Congress mentioned in the title was held in Moscow from March 16 to 23, 1959. More than 4000 delegates and guests from 19 countries participated. It was opened by the President of the Organizatory Committee, Academician A. N. Nesmeyanov, who asked the participants to discuss the development of chemistry and chemical technology in the USSR in the light of the decisions of the 21st Congress of the CPSU. The following Members read papers in the plenary sessions: V. S. Fedorov, Chairman of the Gosudarstvennyy komitet soveta Ministrov SSSR po khimii (State Committee on Chemistry of the Council of Ministers, USSR): Tasks of Scientific and Technical Progress in the Chemical Industry; V. A. Kargin: Basic Problems of Polymer Chemistry; A. N. Nesmeyanov: The Periodic System and Organic Chemistry; N. N. Semenov: Basic Problems of Chemical Kinetics; V. I. Spitsyn: The Present State of D. I. Mendeleev's Periodic Law;

Card 1/6

The 8th Mendeleev Congress on General and  
Applied Chemistry

SOV/78-4-9-43/44

A. P. Vinogradov: Basic Problems of Radiochemistry; V. A. Engel'gardt: Basic Problems of Biochemistry; A. V. Sokolov: Chemical Problems of Agriculture in the USSR; V. B. Nikolayev: Main Tasks of the Construction of Chemical Machinery and Apparatus; Ya. K. Syrkin: Basic Problems of the Theory of Chemical Linkage; and A. P. Aleksandrov: Chemical Prospects for the Use of Atomic Energy. An appeal to all chemists of the USSR was drawn up in which they are exhorted to devote all their strength to the fulfillment of the great tasks posed by the 21st Congress of the CPSU. The following speakers at the meetings of the individual sections are mentioned: Section of Inorganic Chemistry and Technology (118 lectures): V. I. Spitsyn; I. V. Yanitskiy (Kaunas)(Selenopolythionates); Liu Ta-kang (People's Republic of China); N. A. Godina (Leningrad = L)(Hafnium dioxide); P. I. Protsenko, L. N. Venerovskaya (Rostov n/D); B. N. Ivanov-Emin (Moscow = M); A. I. Grigor'yev (M) at the same time on behalf of A. V. Novoselova, K. N. Semenenko; V. C. Kuznetsov, Z. V. Popova (M); V. Ya. Rosolovskiy (M); K. F. Karlysheva; I. A. Sheka, Ts. V. Pevzner (Kiyev = K); T. V. Permyakova, I. S. Lileyeva (L); On Peroxides: I. A. Kazarnovskiy, S. Z. Makarov,

Card 2/6

The 8th Mendeleev Congress on General and  
Applied Chemistry

SOV/78-4-9-43/44

T. I. Arnol'd, I. I. Vol'nov (all M); T. V. Rode, G. K.  
Grishenkova, A. V. Zachatskaya (M); S. A. Shchukarev, I. V.  
Vasil'kova, M. P. Morozova, T. I. Likhniy, Huang Chi-T'ao,  
K'ang Hw'ing (L); A. Simon (East Germany), Z. Szabo (Hungary),  
G. B. Boki (M). Subsection on Physico-chemical Analysis:  
I. N. Lepeshkov (M), V. I. Mikheyeva (M), L. G. Berg (Kazan'),  
F. M. Perel'man; A. I. Agayev (Baku), L. S. Itkina, V. F. Kokhova  
(M); I. G. Grigor'yev (Kuybyshev), Ye. S. Bruyle (M); A. A.  
Zinov'yev, V. Ya. Rosolovskiy (M); N. M. Dombrovskiy, M. S.  
Ivanova (Chernovtsy); E. B. Shternina, Ye. V. Frolova (M); M. I.  
Ravich, F. Ye. Borova; O. K. Yanat'yeva (M), B. A. Beremzhanov  
(Alma-Ata), D. I. Eristavi (Tbilisi), F. V. Lapshin (Chernovtsy),  
N. N. Sirota (Minsk), A. P. Palkin (Voronezh); A. V. Nikolayev,  
A. G. Kurnakova, I. I. Yakovlev (M); I. N. Belyayev (Rostov n/D);  
B. F. Markov, R. V. Chernov (K); Ye. I. Smagina, V. S. Kutsev,  
B. F. Ormont (M); N. N. Yevseyeva, N. P. Lushnaya, I. P.  
Vereshchagina, L. I. Antonova, Ye. I. Zharkovskiy, K. S.  
Kranchevich (M); L. A. Bulygin, P. T. Danil'chenko (Simferopol'),  
Ye. K. Akopov (Krasnodar); A. A. Vakhrushev (Izhevsk).  
Subsection on the Chemistry of Complex Compounds:  
I. I. Chernyayev, L. A. Nazarova, V. S. Orlova (M);

Card 3/6

The 8th Mendeleev Congress on General and  
Applied Chemistry

SOV/78-4-9-43/44

N. N. Krasovskaya, V. A. Tsingister (M); N. I. Ushakova (M, at the same time on behalf of A. V. Babayeva), L. M. Volshteyn (Dnepropetrovsk), Kh. I. Gil'dengershel' (L), Yu. N. Kukushkin (L), S. P. Derendyayev (Izhevsk), O. Ye. Zvyagintsev, A. Kurbanov, S. M. Starostin (M); S. I. Ginzburg, N. K. Pshenitsyn, L. G. Sal'skaya (M); I. I. Chernyayev (M, also in the name of Ye. V. Shenderetskaya), A. D. Troitskaya (Kazan'), V. G. Tronev (M), L. Kolditz (East Germany), E. Thilo (East Germany), A. V. Ablov, N. M. Samus' (Kishinev); I. B. Baranovskiy, A. V. Babayeva (M); Yu. P. Nazarenko (K), R. Ripan, G. Marua (Rumania); Ye. A. Nikitina, Ye. V. Prytkova, O. N. Sokolova (M); N. K. Davidenko (K, also on behalf of Ya. A. Fialkov); E. N. Deychman (M), K. N. Mikhalevich, V. V. Kobzev (L'vov); Lu Chao-ta I. V. Tananayev (M); T. T. Mityureva (K), A. M. Golub (K), K. B. Yatsimirskiy (Ivanovo), B. V. Ptitsyn, D. I. Vinogradova, Ye. N. Tekster, L. N. Sheronov (L); V. I. Yermolenko (K, also on behalf of Ya. A. Fialkov), P. K. Migal', A. N. Pushnyak; A. I. Shnarovich (Chernovtsy), Z. A. Sheka, Ye. Ye. Kriss (K); O. I. Zakharov - Nartsissov, O. Ye. Zvyagintsev (M); V. A. Latysheva (L), Ye. A. Maksimuk, G. S. Ginzburg (L); V. I. Paramonova, A. N. Mosevich,

Card 4/6

The 8th Mendeleev Congress on General and  
Applied Chemistry

SOV/78-4-9-43/44

A. S. Koreychuk (L); A. A. Grinberg (L), G. A. Shagisultanova (L),  
L. Ye. Nikol'skaya (L), I. G. Ryss, S. L. Idel's (Dnepropetrovsk),  
Ye. Sh. Ganelina (L). Subsection on Questions of Technology:  
S. I. Vol'fkovich, N. N. Postnikov, L. A. Ionass, Ye. V.  
Illarionov, R. Ye. Roman (M); A. B. Bekturov (Alma-Ata), L. V.  
Yumanova, A. S. Mikul'skiy, A. P. Selyanskiy, F. S. Marok,  
M. A. Serebrennikov (Sverdlovsk), Ye. P. Ozhigov (Vladivostok),  
Yu. S. Palyshvskiy (Sverdlovsk), V. M. Lekaye, A. G. Kasatkin,  
L. N. Yelkin (M); A. V. Baranov, E. A. Liberzon (Dnepropetrovsk),  
S. V. Kushnir, Ya. P. Berklman (L'vov), Ya. Ye. Vil'yanskiy,  
Ye. I. Savinkov, L. A. Borovskikh, A. I. Teterevkov, L. S.  
Bychikhin (Sverdlovsk); V. F. Kovtuk, A. G. Lagutina, P. T.  
Danil'chenko (Simferopol'); T. N. Dymova, A. A. Vysheslavitsev (M);  
In cooperation with the Section Metals and Alloys on the subject  
of semiconductor alloys: N. N. Sirota (Minsk), B. F. Ormont (M),  
L. D. Dudkin (M), Z. G. Pinsker (M), Ya. A. Ugay (Voronezh),  
N. A. Goryunova (L), B. T. Kolomiyets, A. N. Goryunova, V. P.  
Shilo (L). Section Chemistry and Technology of Silicates: More  
than 60 lectures, among which there were lectures by Ye. A.  
Poray-Koshits (L), D. V. Mazurin (L). Section Metals and Alloys:

Card 5/6



The 8th Mendeleev Congress on General and  
Applied Chemistry

SOV/78-4-9-43/44

numerous papers (no names given). Section Agronomical Chemistry of Fertilizers and Pest Control: the only names mentioned were S. I. Vol'fkovich (M), A. F. Kalinkevich (M). Section Radio-chemistry and Isotope Chemistry: 30 lectures, of which there were mentioned: A. D. Gel'man (M): Complex Compounds of Transuranic Elements; A. M. Gurevich, L. D. Preobrazhenskaya, L. P. Polozhenskaya, Ye. V. Komarov (L): Peroxides of Hexavalent Uranium; A. K. Lavrukhina, S. S. Rodin, A. A. Pozdnyakov (M): Chemical Properties of Francium; Yu. B. Gerlit (M): Extraction of Technetium; I. P. Alimarin, Yu. A. Zolotov, Yu. P. Novikov, P. N. Paley, Ye. S. Pal'shin (M): Chemical Properties of Neptunium; I. Ye. Starik (L): Microquantities of Radioactive Elements in Solution; V. I. Grebenshchikova, R. V. Bryzgalova, N. B. Chernyavskaya, V. I. Bobrova (L): on the Crystallization of Transuranides; V. M. Vdovenko and collaborators (L): Extraction of Uranium, Neptunium, and Plutonium From an Aqueous Solution. Further lectures dealt with the reactions of "hot" atoms of various elements, the separation and elimination of isotopes, radiation chemistry, and other problems.

Card 6/6

3(0), 3(8)

AUTHOR:

Zvyagintsev, O.

SOV/7-59-6-13/17

TITLE:

Review. V. M. Kreyter, V. V. Aristov, I. S. Volynskiy, A. N. Krestovnikov, V. V. Kuvichinskiy. "Behavior of Gold in the Oxidation Zone of Gold - Sulphide Deposits" - Gosgeoltekhizdat, Moscow, 1959, 268 p, Price 13,40 Rubles

PERIODICAL:

Geokhimiya, 1959, Nr 6, pp 560 - 561 (USSR)

ABSTRACT:

The book was written by a team of mineralogists, geologists and chemists under the direction of V. M. Kreyter. The oxidation zones of the following deposits were investigated: Maykain (Kazakhstan), Dzhugaly (Kazakhstan), and Novyy Sibay and Blyava (Southern Urals). The dissolution process of gold in the oxidation zone was thoroughly investigated. The dissolution by  $\text{Fe}_2(\text{SO}_4)_3$  in sulfuric acid solution is regarded as the most probable one on the basis of experimental results. The concepts by F. Freyze (transport in form of organic solutions), A. Ye. Fersman (transport in form of cyanides), F. V. Chukhrov (transport in form of bromates and iodides), and M. N. Al'bov (transport in form of gold suspension) are rejected. A solution by  $\text{Fe}_2(\text{SO}_4)_3$  in hydrochloric acid solution is also

Card 1/2

SOV/7-59-6-13/17  
Review. V. M. Kreyter, V. V. Aristov, I. S. Volynskiy, A. N. Krestovnikov,  
V. V. Kuvichinskiy. "Behavior of Gold in the Oxidation Zone of Gold - Sul-  
phide Deposits" - Gosgeoltekhizdat, Moscow, 1959, 268 p, Price 13,40 Rubles

regarded as improbable for gold is transported together with silver. Silver is, on the other hand, converted into a soluble complex by NaCl in hydrochloric acid solution. The formation of gold - chloride complexes is also found to exist, whereas the formation of iron sulfate - gold complexes has remained a hypothesis. Another disadvantage of the book is the large number of printing errors and the inferior quality of the representation of microphotographies. On the whole, however, the book is welcomed and regarded as very interesting.

SUBMITTED: May 20, 1959

Card 2/2

SOLOV'YEV, Yuriy Ivanovich; ZVIAGINTSEV, Orest Yevgen'yevich; GRIGOR'YEV,  
A.T., prof., otv.red.; BANKVITSER, A.L., red.izd-va; MAKUNI,  
Ye.V., tekhn.red.

[Nikolai Semenovich Kurnakov; his life and works] Nikolai Seme-  
novich Kurnakov; zhizn' i deiatel'nost'. Moskva, Izd-vo Akad.  
nauk SSSR, 1960. 205 p. (MIRA 13:4)  
(Kurnakov, Nikolai Semenovich, 1860-1941)

ROZHKOV, P.I., laureat Stalinskoy premii, otv.red.; PSHENITSYN, N.K.,  
retsenzent; ZVIAGINTSEV, O.Ye., prof., doktor khim.nauk,  
retsenzent; PRILEZHAYEVA, N.A., prof., doktor fiz.nauk, retsen-  
zent; ANISIMOV, S.M., prof., red.; SHULAKOV, P.G., red.; SEMENOVA,  
N.Ya., red.; GUT'KOV, A.D., red.; DOLGIKH, V.I., red.; KAMAYEVA,  
O.M., red.isd-va; ISLENT'YEVA, P.G., tekhn.red.

[Methods of analyzing platinum metals] Metody analiza platinovykh  
metallov, zolots i serebra; sbornik nauchnykh trudov. Moskva,  
Gos.nauchno-tekhn.isd-vo lit-ry po chernoi i tsvetnoi metallurgii,  
1960. 256 p. (MIRA 13:9)

1. Russia (1917- R.S.F.S.R.) Krasnoyarskiy ekonomicheskii admi-  
nistrativnyy rayon. Sovet narodnogo khozyaystva. 2. Chlen-kor-  
respondent AN SSSR (for Pshenitsyn).  
(Platinum--Analysis) (Gold--Analysis)  
(Silver--Analysis)

KURNAKOV, Nikolay Semenovitch, akademik [1860-1960]; ZVYAGINTSEV, O.Ye.,  
doktor khim.nauk, otv.red.; SHEVCHENKO, G.N., tekhn.red.

[Selected works] Izbrannye trudy. Moskva, Izd-vo Akad.nauk  
SSSR. Vol.1. 1960. 595 p. (MIRA 14:3)

(Kurnakov, Nikolai Semenovitch, 1860-1941)  
(Chemistry, Physical and theoretical) (Systems (Chemistry))

ZVIADINTSEV, O.Ye.

Nikolai Semenovich Kurnakov. Izv. vys. ucheb. zav.; tsvet. met.  
3 no. 6:157-162 '60. (MIRA 14:1)  
(Kurnakov, Nikolai Semenovich, 1860-1941)

ZVIAGINTSEV, O.Ye.; ZAKHAROV-MARTSISOV, O.I.

Distribution of cyanoauric (I) acid between aqueous solutions  
and some alcohols and ketones. Zhur.neorg.khim. 5 no.1:124-130  
Ja '60. (MIRA 13:5)

1. Moskovskiy ordena Lenina khimiko-tehnologichaskiy  
institut im. D.I.Mendeleyeva.  
(Cyanoauric acid)



5(2)

68114

SOV/78-5-1-23/45

AUTHORS:

Zvyagintsev, O. Ye., Zakharov-Nartsissov, O. I., Ochkin, A. V.

TITLE:

Solvation and Polymerization of Cyanoauric (I) Acid in Aqueous Solutions

PERIODICAL:

Zhurnal neorganicheskoy khimii, 1960, Vol 5, Nr 1, pp 131-138 (USSR)

ABSTRACT:

This article deals with the conditions of extraction of cyanoauric (I) acid and its salts from aqueous solutions by means of organic solvents. The authors investigated: 1) the dependence of  $\alpha$  on the equilibrium concentration  $[H^+]$  of the hydrogen ions in the extraction of  $HAu(CN)_2$  by means of various alcohols ( $\alpha$  = distribution coefficient of  $HAu(CN)_2$  among aqueous and organic phase) for which they derived equation (6); 2) the dependence of the alcohol content of the aqueous phase upon the sulfuric acid concentration (Table 1). It was found that the solubility of alcohols in the aqueous phase decreases with rising concentration of  $H_2SO_4$ . 3) Furthermore, the authors studied the dependence of  $\alpha$  upon the equilibrium concentration of  $AuH(CN)_2$  in the organic phase (Table 2). It was found that

68114

SOV/78-5-1-23/45

# Solvation and Polymerization of Cyanoauric (I) Acid in Aqueous Solutions

solvates of the form  $\text{HAu}(\text{CN})_2 \cdot x\text{Sol}$  are formed by reaction of  $\text{HAu}(\text{CN})_2$  with the aliphatic alcohols under consideration.

These solvates are present in the organic and aqueous phase alike. The distribution coefficient decreases with rising concentration of cyanoauric (I) acid in the aqueous phase, which is explained by the formation of polymers of the form  $[\text{HAu}(\text{CN})_2]_n$ . Such dimers are present in the aqueous phase, and are not extracted by a 1:1 mixture of n-amyl alcohol or cyclohexanone and benzene. No polymers were detected in strongly dilute solutions. There are 1 figure, 2 tables, and 6 references, 5 of which are Soviet.

ASSOCIATION: Moskovskiy ordena Lenina khimiko-tekhnologicheskii institut im. D. I. Mendeleyeva (Moscow "Order of Lenin" Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: July 9, 1959

Card 2/2

ZVIAGINTSEV, O.Ye.; SHAMAYEV, V.I.

Determination of certain microimpurities in high-purity  
selenium. Report No.3. Zhur.anal.khim. 15 no.3:325-328  
My-Je '60. (MIRA 13:7)

1. D.I.Mendeleev Moscow Chemico-Technological Institute.  
(Selenium--Analysis)

18.3000

77500

SOV/80-33-1-9/49

AUTHORS: Zvyagintsev, O. Ye., Zakharov-Nartsissov, O. I.

TITLE: Extraction of Gold From Cyanide Solutions Obtained  
by Treatment of Gold Ores

PERIODICAL: Zhurnal prikladnoy khimii, 1960, Vol 33, Nr 1, pp 55-58  
(USSR)

ABSTRACT: The authors calculated distribution coefficients for gold and for metallic impurities (silver, iron, arsenic, copper, etc.) in extraction of gold (as  $\text{HAu}(\text{CN})_2$ ) from acidified (with  $\text{H}_2\text{SO}_4$ ) technical cyanide solutions by isoamyl alcohol. Two ore samples (submitted by Professor M. D. Ivanovskiy) were treated for gold extraction (composition (in mg/kg ore) or ore Nr 1 - Au, 16-18; Ag, 20-25; sum of Sb, Fe, Cu, 300-400; Zn, none; As, none; ore Nr 2 - Au, 17-19; Ag, 40-60; As, 50,000-60,000; Sb, 5; Zn, 80; Cu, 6,000-7,000; Fe 60,000-80,000). Hundred-gram ore samples ground to 150 mesh were placed

Card 1/5

Extraction of Gold From Cyanide Solutions  
Obtained by Treatment of Gold Ores

77500  
SOV/80-33-1-9/49

into porcelain tumblers which were then filled up with solutions of NaCN (0.12 and 0.25 % weight in solutions of ores 1 and 2, respectively) and alkali (0.12% CaO and 0.2% NaOH, respectively). After 36-40 hr of mixing the decanted solution was acidified with 0.1M sulfuric acid with subsequent addition of radioactive indicators ( $\text{NaAu}(\text{CN})_2$ ,  $\text{NaAg}(\text{CN})_2$ ,  $\text{Na}_4\text{Fe}(\text{CN})_6$ , or  $\text{Na}_2\text{Zn}(\text{CN})_4$ ) to equal volume fractions of the solutions (for measurements of -activities). Copper and arsenic were determined separately--(copper by the method of Gillebrand, V. F., Lendel, G. E., et al., (Practical Manual for Inorganic Analysis (Prakticheskoy rukovodstvo po neorganicheskomu analizu), Goskhimizdat, 268 (1957)) and arsenic by the method of Analysis of Raw Mineral Materials (Analiz mineral'nogo syr'ya, Goskhimizdat, 505 (1959)). These solutions were then shaken with isoamyl alcohol, keeping the volume ratio of organic ( $v_{\text{org. equil.}}$ ) and aqueous ( $v_{\text{aq. equil.}}$ ) phases equal to 1:5 in all experiments. Distribution coefficient of

Extraction of Gold From Cyanide Solutions  
Obtained by Treatment of Gold Ores

77500  
SOV/80-33-1-9/49

metals ( ) was calculated by the formula  $= N_{org} / N_{aq}$ , where  $N_{org}$  and  $N_{aq}$  are -activities in organic and aqueous phases at equilibrium. For Cu and As, was found by analysis, using the formulas:

$$v_{aq. init.} \cdot C_{aq. init.} = v_{aq. equil.} \cdot C_{aq. equil.} + v_{org. equil.} \cdot C_{org. equil.};$$

$$= C_{org. equil.} / C_{aq. equil.},$$

where  $v_{aq. init.}$  is initial volume of the aqueous phase; and  $C$  (with respective indices) is concentration of metals in these phases. Percent of gold recovery =

$$\frac{N_{aq. init.} - N_{aq. equil.}}{N_{aq. init.}} \cdot 100. \text{ Two subsequent extrac-}$$

tions resulted in 98.5% of gold recovery from both ores.

Extraction of Gold From Cyanide Solutions  
Obtained by Treatment of Gold Ores

77500  
SOV/80-33-1-9/49

Separation of gold from silver, copper, and zinc is complete (i.e., their distribution coefficients were found to be zero), while % of iron and arsenic admixtures is very low ( $\text{Fe} = 0.01$ ,  $\text{As} = 0.06$ ).

Figure 1 shows variation of distribution coefficients with concentration of sulfuric acid. There are 1 figure; 2 tables; and 5 Soviet references.

SUBMITTED: July 2, 1959

Card 4/5

# Extraction of Gold From Cyanide Solutions Obtained by Treatment of Gold Ores

77500  
SOV/80-33-1-9/49

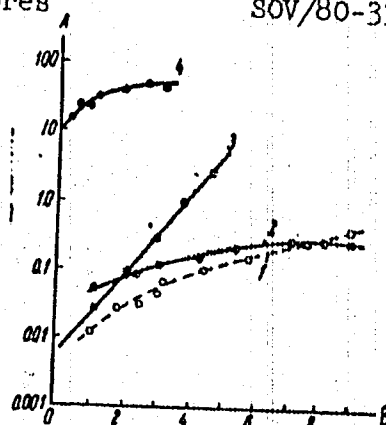


Fig. 1. Variation of distribution coefficients of gold, iron, arsenic, and sulfuric acid in their distribution between isoamyl alcohol and cyanide solution obtained from ore Nr 2 with concentration of the acid in aqueous phase. (A) Distribution coefficient  $A: C_{org}/C_{aq}$ ; (B) concentration of H<sub>2</sub>SO<sub>4</sub> (in moles/l). (1) H<sub>2</sub>SO<sub>4</sub>; (2) As; (3) Fe; (4) Au.



Preparation of aluminum oxychloride. Zhur.prikl.khim. 33 no.5:  
1208-1211 My '60. (MIRA 13:7)

(Aluminum chloride)

2V-LACINTSEV, O.I.; SOLOV'YEV, Yu.I.

In memory of the first editor of the Journal of Applied Chemistry,  
A.I.Gorbov (1859-1939). Zhur.prikl. khim. 33 no.6:1404-1405-Je '60.  
(MIRA 13:8)  
(Gorbov, Aleksandr Ivanovich, 1859-1939)

ZVYAGINTSEV, O.Ye.

Nikolai Semenovich Kurnakov; 100th anniversary of his birth.  
TSvet. met 33 no. 12:81-83 D '60. (MIRA 13:12)  
(Kurnakov, Nikolai Semenovich, 1860-1941)

(Kurnakov, Nikolai Semenovitch, 1860-1941)

ALIMARIN, I.P.; BILLIMOVICH, G.N.; BUSEV, A.I.; VAYNSHTEYN, B.Ye.; VOLYNETS,  
M.P.; GORYUSHINA, V.G.; DYMOV, A.M.; YELINSON, S.V.; ZVYAGINTSEV,  
O.Ye.; KOLOSOVA, G.M.; KORCHEMNAYA, Ye.K.; LEESEDEV, V.I.; MALOFEYEV,  
G.A.; MELENT'YEV, B.N.; NAZARENKO, V.A.; NAZARENKO, I.I.; PETROVA, T.V.;  
POLUEKTOV, N.S.; PONOMAREV, A.I.; RYABUKHIN, V.A.; STROGANOVA, N.S.;  
CHERNIKHOV, Yu.A.; VINOGRADOV, A.P., akademik, otv. red.; RYABCHIKOV,  
D.I., doktor khim. nauk, prof., otv. red.; GUS'KOVA, O., tekhn. red.

[Methods for the determination and analysis of rare elements] Metody  
opredeleniia i analiza redkikh elementov. Moskva, 1961. 667 p.  
(MIRA 14:7)

1. Akademiya nauk SSSR. Institut geokhimii i analiticheskoy khimii.  
(Metals, Rare and minor)

"Problems of geochemistry," no.1 1960. Reviewed by O.E. Zviagintsev.  
Geokhimiia no.1:90-91 '61. (MIRA 14:3)  
(Copper ores) (Nickel ores)

ZVIAGINTSEV, O.YE.; FADUKOV, I.A.

In memory of N.K.Pshenitsyn; obituary. Zhur.neorg.khim. no. 9:9  
1981-1989 S. '61. (MIRA 14:9)  
(Pshenitsyn, Nikolai Konstantinovich, 1891-1961)

Trudy Inst. 1st.  
(MIRA 14:9)



S/078/61/006/003/012/022  
B121/B208

AUTHORS: Zvyagintsev, O. Ye., Khromenkov, L. G.  
TITLE: Composition of thorium compounds with malic acid  
PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 3, 1961, 593-600

TEXT: The systems thorium nitrate - malic acid - water, thorium nitrate - acid sodium malate - water, and thorium nitrate - sodium malate - water were studied by determining electrical conductivity, pH, and by potentiometric titrations. Two types of complex compounds of thorium with malic acid with a ratio of the components of 1 : 1 and 1 : 2 were found. These complexes exist in different forms, depending on the pH. Determination of the transference number disclosed that thorium migrates to the cathode in an acid medium at a ratio of the components of 1 : 1, and to the anode in a weakly acid medium at a ratio of the components of 1 : 3. It may be seen from this that in the compound with the composition 1 : 1, thorium appears in the complex as the cation, and in the compounds with the composition 1 : 2, it is in a complex anion. The following thorium malates were synthesized: ✓

S/078/61/006/003/012/022  
B121/B208

Composition of ...

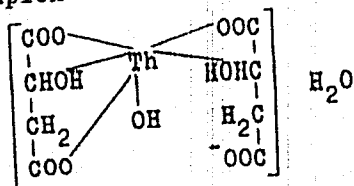
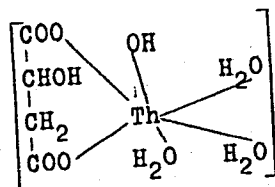
$(\text{ThOH})_2\text{Mal}_3 \cdot 4\text{H}_2\text{O}$ ,  $\text{Na}_2\text{Th}(\text{OH})_2\text{Mal}_2 \cdot 4\text{H}_2\text{O}$ , and  $\text{NaTh}(\text{OH})\text{Mal}_2 \cdot 6\text{H}_2\text{O}$ . Two methods were used for the production of basic thorium malate  $(\text{ThOH})_2\text{Mal}_3 \cdot 4\text{H}_2\text{O}$ : methyl alcohol was added to an aqueous solution of thorium nitrate and malic acid. Basic thorium malate was obtained in the form of a white amorphous precipitate which was washed out with water and acetone and then dried at  $100^\circ\text{C}$ . In the second method, an aqueous solution of thorium nitrate was added to an aqueous solution of sodium malate in a ratio of  $\text{Th}(\text{NO}_3)_4 : \text{Na}_2\text{Mal} = 2 : 3$ . The composition of the compound with  $(\text{ThOH})_2\text{Mal}_3 \cdot 4\text{H}_2\text{O}$  was determined by chemical analysis. This compound is insoluble in water, alcohol, benzene, acetone, and other organic solvents; it is decomposed when treated with mineral acids. A stable complex compound with a ratio of the components of  $1 : 1$  could not be isolated in an acid medium. At a ratio of the components  $\text{Th}(\text{NO}_3)_4 : \text{Na-malate} = 1 : 3$ , and at  $\text{pH} = 4$ , a white precipitate of the composition  $\text{NaTh}(\text{OH})\text{Mal}_2 \cdot 6\text{H}_2\text{O}$  results when methyl alcohol is added. This compound is comparatively easily soluble in water, but insoluble in

Card 2/4

S/078/61/006/003/012/022  
 B121/B208

Composition of ...

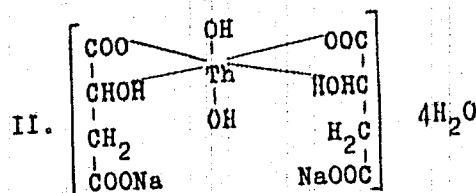
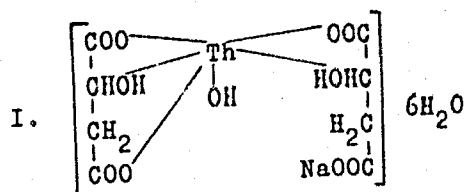
alcohol, benzene, acetone, ether, and other organic solvents. Mineral acids destroy this compound. No thorium hydroxide can be precipitated by adding alkali lyes to the aqueous solution. The following structural formula is suggested for thorium malate with a complex anion and cation:



For the compounds  $\text{Na}_2\text{Th}(\text{OH})_2\text{Mal}_2 \cdot 4\text{H}_2\text{O}$  and  $\text{NaTh}(\text{OH})\text{Mal}_2 \cdot 6\text{H}_2\text{O}$ : the following structural formulas are suggested:

S/078/61/006/003/012/022  
 B121/B208

Composition of ...



The instability constant of the complex  $[\text{ThMal}]^{2+}$  was calculated to be  $K_{\text{in}} = 5.2 \cdot 10^{-7}$ . The range of existence of the complex compounds was determined from potentiometric titrations. The ion  $[\text{Th}(\text{OH})\text{Mal}_2]^-$  appears at a pH of less than 5,  $[\text{Th}(\text{OH})_2\text{Mal}_2]^{2-}$  at a pH of 5-8, and  $[\text{Th}(\text{OH})_3\text{Mal}_2]^{3-}$  at a pH of more than 8. There are 4 figures, 1 table, and 8 references: 3 Soviet-bloc.

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S. Kurnakova  
 Akademii nauk SSSR (Institute of General and Inorganic  
 Chemistry imeni N. S. Kurnakov, Academy of Sciences USSR)

SUBMITTED: September 29, 1960

Card 4/4

Tetravalent oxyhydroxy compounds of trivalent iron.  
Zhur.neorg.khim. 6 no.4:863-869 Ap '61. (MIRA 14:4)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova  
AN SSSR.

(Iron compounds)

~~EVYAGINSEV, O. P.~~, KHRONENKOV, L.G.

Complex compounds of thorium with tartaric acid. Zhur.neorg.khim.  
6 no.4:874-882 Ap '61. (MIRA 14:4)

1. Institut obshchey i neorganicheskoy khimii imeni N.S.Kurnakova  
AN SSSR.  
(Thorium compounds) (Tartaric acid)

S/078/61/006/005/005/015  
B121/B208

AUTHORS: Zvyagintsev, O. Ye., and Khromenkov, L. G.

TITLE: Complex compounds of thorium with trihydroxy-glutaric acid

PERIODICAL: Zhurnal neorganicheskoy khimii, v. 6, no. 5, 1961,  
1074 - 1083

TEXT: The reaction of thorium nitrate with trihydroxy-glutaric acid, with sodium trihydroxy-glutarate, and with sodium bis-trihydroxy-glutarate was studied by measuring the electrical conductivity, by potentiometric titrations and determinations of the transference numbers. It may be seen from the results that thorium nitrate and trihydroxy-glutaric acid form complexes with a ratio of the components of 1 : 1 and 1 : 2. The basic thorium trihydroxy-glutarate has a ratio of the components  $\text{Th}(\text{NO}_3)_4 : \text{H}_4\text{Gl} = 1.2 : 1$  ( $\text{H}_4\text{Gl} = \text{C}_5\text{H}_8\text{O}_7$  = trihydroxy-glutaric acid).

The compound  $(\text{ThOH})_2(\text{H}_3\text{Gl})_3$  is regarded as a simple salt of thorium with trihydroxy-glutaric acid. The complex having a ratio of the components of

Card 1/4

✓

S/078/61/006/005/005/015  
B121/B208

Complex compounds of ...

1 : 1 is stable in the pH-range of 4 - 7. At a higher pH, a precipitate is formed which probably consists of the more sparingly soluble thorium trihydroxy-glutarate complex. At a ratio of the components of 1 : 2 a complex is formed in the pH-range of 6 - 7,5 that is stable also at a pH above 8. Some thorium trihydroxy-glutarate compounds were synthesized.

$(\text{ThOH})_2(\text{H}_2\text{Gl})_3$  is obtained by mixing the aqueous solutions of thorium nitrate and trihydroxy-glutaric acid. The compound is a white, fine-crystalline powder, nearly insoluble in water and organic solvents.

$\text{Th}(\text{OH})\text{H}_2\text{Gl} \cdot 2\text{H}_2\text{O}$  is prepared by adding an aqueous solution of trihydroxy-glutaric acid and sodium hydroxide to an aqueous solution of thorium nitrate at a ratio of the components  $\text{Th}(\text{NO}_3)_4 : \text{H}_3\text{Gl} : \text{NaOH} = 1 : 1 : 4$ .

By adding methyl alcohol, a white precipitate is formed from the clear or slightly turbid solution.  $\text{NaTh}(\text{OH})_2\text{H}_2\text{Gl} \cdot \text{H}_2\text{O}$  was obtained by mixing solutions of thorium nitrate, trihydroxy-glutaric acid, and sodium hydroxide in a ratio of the components of 1 : 1 : 5. It is a white, fine-crystalline powder, readily soluble in water and insoluble in organic solvents. The compound  $\text{NaTh}(\text{OH})(\text{H}_3\text{Gl})_2 \cdot \text{H}_2\text{O}$  was obtained in the form of a white amorphous

Card 2/4



Complex compounds of ...

S/078/61/006/005/005/015  
B121/B208

precipitate by mixing aqueous solutions of the components  $\text{Th}(\text{NO}_3)_4$  and  $\text{Na}_2\text{H}_3\text{Gl}$  in a ratio of 1 : 3 and adding methyl alcohol. It is easily soluble in water and insoluble in organic solvents. No thorium hydroxide can be precipitated from the aqueous solution of this compound by adding alkali hydroxide solutions. The compound  $\text{Na}_2\text{Th}(\text{OH})_2(\text{H}_3\text{Gl})_2$  is obtained as a white, fine-crystalline precipitate by adding sodium hydroxide to an aqueous solution of thorium nitrate and sodium trihydroxy-glutarate at a ratio of the components of 1 : 3 and subsequent addition of methyl alcohol. This precipitate is well soluble in water, but insoluble in organic solvents. The aqueous solution of the complex is destroyed by mineral acids, no thorium hydroxide precipitates when alkali hydroxide is added. In aqueous solution the complex dissociates into three ions. The stability constant of thorium trihydroxy-glutarate  $(\text{ThH}_3\text{Gl})^{2+}$  was calculated and found to be  $2.0 \cdot 10^{-4}$ . There are 5 figures and 9 Soviet-bloc references. ✓

Card 3/4

Complex compounds of ...

S/078/61/006/005/005/015  
B121/B208

ASSOCIATION: Institut obshchey i neorganicheskoy khimii im. N. S.  
Kurnakova Akademii nauk SSSR  
(Institute of General and Inorganic Chemistry imeni N. S.  
Kurnakov of the Academy of Sciences USSR)

SUBMITTED: September 29, 1960

ZVIAGINTSEV, O.Ye.; STAROSTIN, S.M. [deceased]

Complex ruthenium acidonitroso compounds. Zhur.neorg.khim. 6  
no.6:1281-1290 Je '61. (MIRA 14:11)  
(Ruthenium compounds) (Nitroso compounds)

Extraction of gold hydrocyanic acid with n-trioctylamine. Zhur.neorg.  
khim. 6 no.8:1978-1979 Ag '61. (MIRA 14:8)  
(Hydrocyanic acid) (Gold compounds) (Trioctylamine)

EVYAGINTSEV, Oleg. GRUBCHIKINA, Irina.

Kinetics of interaction between tetravalent platinum tetramines  
and ammonia and ammonia and pyridine. Zhur.neorg.khim. 6 no.9:  
2029-2037 5 '61. (MIRA 14:9)  
(Platinum compounds) (Ammonia) (Pyridine)

Electrolytic reduction of some ruthenium acidonitroso compounds.  
Zhur.neorg.khim. 6 no.9:2216-2218 S '61. (MIRA 14:9)  
(Ruthenium compounds) (Reduction, Electrolytic)

ZVYAGINTSEV, O.Ye.; KHROMENKOV, L.G.

Complex compounds of thorium with tetrahydroxyadipic acid. Zhur.-  
neorg.khim. 6 no.12:2663-2671 D '61. (MIRA 14:12)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova AN  
SSSR.

(Thorium compounds) (Adipic acid)

Fifth conference on the analysis of noble metals. Zhur. anal.  
khim. 16 no. 1:119 Ja-F '61. (MIRA 14:2)  
(Metals, Rare and minor--Congresses)



Extraction of gold from cyanide solutions obtained in ore treatment  
with n-trioctylamine. Zhur. prikl. khim. 34 no. 12:2601-2605 D '61.

(MIRA 15:1)

(Gold ores) (Cyanide process)

[Ruthenium and osmium; bibliography covering the period 1804 -  
1960] Rutenii i osmii; bibliograficheskii ukazatel' literatury,  
1804-1960. Moskva, Izd-vo Akad. nauk SSSR, 1962. 250 p.  
(MIRA 15:6)

1. Akademiya nauk SSSR. Sektor seti spetsial'nykh bibliotek.  
(Bibliography--Ruthenium) (Bibliography--Osmium)

New books on the technology of uranium and artificial radioactive  
elements. Zhur.prikl.khim. 35 no.1:230-231 Ja '62. (MIRA 15:1)  
(Uranium) (Radioactive substances)

ZVIAGINTSEV, O.Ye.; TIKHONOV, V.P.

Comments on the article by O.E.Zviagintsev and V.P.  
Tikhonov: "Reaction of praseodymium and neodymium  
nitrates with hydroxymalonic acid." Zhur.neorg.khim.  
10 no.8:1954 Ag '65. (MIRA 19:1)

ZVYAGINTSEV, O.Ye.; SINITSYN, N.M.; PICHKOV, V.N.

Effect of the nature of the acid on the extraction of  
ruthenium in the  $[\text{RuNo}(\text{NO}_2)_4\text{OH}]^{2-}$  form. Zhur.neorg.khim.

11 no.1:198-200 Ja '66.

(MIRA 19:1)

1. Submitted December 10, 1964.

SINITSYN, N.M.; ZVIAGINTSEV, O.Ye.

Hydrolysis of  $(\text{NH}_4)_2[\text{R}_u\text{NOO}_1_5]$ . Zhur.neorg.khim. 11  
no.1:200-202 Ja '66. (MIRA 1911)

1. Submitted December 14, 1964.

Cis effect in complex platinum (IV) compounds. Zhur. neorg.  
khim. 10 no.5:1033-1037 My '65. (MIRA 18:6)

1. Institut obshchey i neorganicheskoy khimii imeni Kurnakova  
AN SSSR i Institut neorganicheskoy khimii Sibirskogo otdeleniya  
AN SSSR.

ZVIAGINTS V. Orest Yevgen'yevich; SOLOV'YEV, Yuriy Ivanovich;  
STAROSEL'SKIY, Pavel Isaakovich

Lev Aleksandrovich Chuganov. Moskva, 1965. 197 p.  
(MIRA 18:9)



"APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065720010-8  
APPROVED FOR RELEASE: Thursday, September 26, 2002 CIA-RDP86-00513R002065720010-8"  
ZHEV, O.I.; FRODOV, Yu.G.; CHEN' TSZIN' BAN; VAL' KOV, A.V.

Extraction of sulfuric acid and uranyl sulfate with N-alkylanilines.  
Zhur.neorg.khim. 10 no.4:981-985 Ap '65.  
(MIRA 18:6)

ZVIAGINISEV, O.Ye.; TIKHONOV, V.P.

Reaction of thorium and rare-earth elements with tartaric acid  
when present together. Zhur.neorg.khim. 10 no.4:994-996 Ap '65.  
(MIRA 18:6)

1. Moskovskiy ordena Lenina khimiko-tekhnologicheskoy institut  
imeni Mandeleeva.

ZVIAGINTSEV, O.Ye.; TIKHONOV, V.P.

Mechanism of the reaction of praseodymium nitrate with tartaric acid. Zhur. neorg. khim. 9 no.12:2789-2791 D '64.

(MIRA 18:2)

1. Moskovskiy ordena Lenina khimiko-tekhnologicheskii institut imeni D.I. Mendeleyeva.

Extraction of complex ruthenium nitrosopentahalides with aliphatic amines. Dokl. AN SSSR 160 no.2:370-372 Ja '65.

(MIRA 18:2)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova  
AN SSSR. Submitted July 8, 1964.

ZVYAGINTSEV, Orest Yevgen'yevich, prof., doktor khim. nauk;  
AVTOKRATOVA, Tat'yana Dmitriyevna, kand. khim. nauk, dots.;  
GORUNOV, Anatoliy Alekseyevich, kand.khim. nauk, assistant;  
KOLBIN, Nikolay Ivanovich, kand.khim.nauk, dots.; RYABOV,  
Al'ber Nikolayevich, kand. khim. nauk, assistant; KORCHEMNAYA,  
Ye.K., red.

[Chemistry of ruthenium] Khimiia rutenia. [By] O.E.Zviagin-  
tsev i dr. Moskva, Nauka, 1965. 299 p. (MIRA 18:6)

1. Leningradskiy gosudarstvennyy universitet im. A.A.Zhda-  
nova (for Kolbin, Ryabov, Gorunov). 2. Moskovskiy institut  
stali i splavov(for Avtokratova).

ZVYAGINTSEV, O.Ye.; SINITSYN, N.M.; PICHKOV, V.N.

Extraction of  $\text{Na}_2[\text{RuNO}(\text{NO}_2)_4\text{OH}]\cdot 2\text{H}_2\text{O}$  by means of aliphatic amines.  
Radiokhimiia 6 no.5:619-621 '64. (MIRA 18:1)

Second birth of ruthenium. Priroda 54 no.5:71-74 My '65.  
(MIRA 18:5)

GINZBURG, Susanna Il'ichna; GLADYSHEVSKAYA, Klavdiya Antonovna;  
YEZERSKAYA, Natal'ya Anatol'yevna; IVONINA, Ol'ga  
Mikhaylovna; PROKOF'YEVA, Irina Vasil'yevna; FEDORENKO,  
Nina Vladimirovna; FEDOROVA, Aleksandra Nikolayevna;  
ZVIAGINTSEV, O.Ye., doktor khim. nauk, otv. red.;  
VOLYNETS, M.P., red.

[Manual on the chemical analysis of platinum metals and  
gold] Rukovodstvo po khimicheskoiu analizu platinovykh me-  
tallov i zolota. Moskva, Nauka, 1965. 312 p.

(MIRA 18:2)



ZVYAGINTSEV, O.Ye.

Ninth All-Union Conference on the chemistry of complex  
compounds. Zhur. neorg. khim. 9 no.7:1776-1778 J1 '64.  
(MIRA 17:9)

ZVYAGINTSEV, O.Ye.; TIKHONOV, V.P.

Interaction of praseodymium and neodymium nitrates with  
tartaric acid. Zhur. neorg. khim. 9 no.7:1588-1596 J1 '64.

Interaction of praseodymium and neodymium nitrates with  
hydroxymalonic acid. Ibid.:1597-1605 (MIRA 17:9)

1. Moskovskiy ordena Lenina khimiko-tehnologicheskoy institut  
imeni Mendeleyeva.

ACCESSION NR: AP4041580

8/0078/64/009/007/1597/1605

AUTHOR: Zvyagintsev, O. Ye.; Tikhonov, V. P.

TITLE: Interaction of praseodymium and neodymium nitrates with oxymalonic acid.

SOURCE: Zhurnal neorganicheskoy khimii, v. 9, no. 7, 1964, 1597-1605

TOPIC TAGS: praseodymium nitrate oxymalonic complex, neodymium nitrate oxymalonic complex, praseodymium nitrate, neodymium nitrate, oxymalonic acid, rare earth ion

ABSTRACT: The present work was undertaken to provide a verification of an earlier conclusion by the same authors that the stability of cation complexes of oxycarboxylic acids with ions of rare earths in an acid medium as well as the differential between instability constants of these complexes for neighboring rare earths should increase with decreasing distance between carboxyl groups. Applying physico-chemical methods of preparative chemistry, interaction of praseodymium and neodymium nitrates with oxymalonic acid was studied for a wide pH range. The earlier suggested mechanism of trivalent rare earths interaction with dicarboxylic oxyacids has been confirmed. It has been established that the pH of the medium has a decisive influence on rare earth complex formations with oxyacids. The influence of

Card

1/2

ACCESSION NR: AP4041580

excess reagent addition is slight. It has been proven that with decreasing distance between the carboxylic groups, both the complex stability and the difference between instability constants increase. Successive dissociation constants,  $K_1$  and  $K_2$  for oxymalonic acid have been calculated, as well as the instability constants of cationic oxymalonic complexes of praseodymium and neodymium. For the first time the following compounds of praseodymium and neodymium with oxymalonic acid were prepared:  $\text{Pr}_2(\text{C}_3\text{H}_2\text{O}_5)_3 \cdot 3\text{H}_2\text{O}$ ;  $\text{Nd}_2(\text{C}_3\text{H}_2\text{O}_5)_3 \cdot 3\text{H}_2\text{O}$ ;  $\text{PrC}_3\text{HO}_5 \cdot 3\text{H}_2\text{O} \cdot 2\text{H}_2\text{O}$ ;  $\text{NdC}_3\text{HO}_5 \cdot 3\text{H}_2\text{O} \cdot 2\text{H}_2\text{O}$ . Their composition has been determined, some properties studied and tentative structural formulas proposed. It has been noted that the neodymium compounds are somewhat more stable than those of praseodymium. Orig. art. has: 8 figures, 17 formulas, 2 tables.

ASSOCIATION: Moskovskiy ordena Lenina khimiko-tekhnologicheskii institut im. D. I. Mendeleeva (Moscow "order of Lenin" Institute of Chemical Technology)

SUBMITTED: 18Jul63

DATE ACQ: 00

ENCL: 00

SUB CODE: IC

NO REF SOV: 004

OTHER: 001

Card 2/2

PICHKOV, V.N.; SINITSYN, N.M.; ZVYAGINTSEV, O.Ye.

Nitrosoruthenium compound  $[RuNO(NO_2)_2(NH_3)(OH)]$ . Dokl. AN  
SSSR 156 no. 4:891-893 Je '64. (MIRA 17:6)

1. Institut obshchey i neorganicheskoy khimii im. N.S.  
Kurnakova AN SSSR. Predstavleno akademikom I.I.Chernyayevym.

Bond strength of the nitroso group in ruthenium compounds. Zhur,  
neorg. khim. 8 no.8:1988-1989 Ag '63. (MIRA 16:8)

1. Institut obshchey i neorganicheskoy khimii imeni N.S. Kurnakova  
AN SSSR.

(Ruthenium compounds) (Nitroso group)

SINITSYN, N.M.; ZVYAGINTSEV, O.Ye.

Effect of outer-space cations on the stability of ligand bonds  
in complex compounds. Zhur. neorg. khim. 8 no.10:2329-2333 ) '63.  
(MIRA 16:10)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova  
AN SSSR.

(Complex compounds) (Chemical bonds)

ZVIAGINTSEV, O.Ye.; GONCHAROV, Ye.V.

Interaction of praseodymium chloride with glycine and -alanine.  
Zhur.neorg.khim. 8 no.2:349-359 F '63. (MIRA 16:5)  
(Praseodymium chloride) (Glycine) (Alanine)



ZVIAGINTSEV, O.Ye.; GONCHAROV, Ye.V.

Neodymium hydroxyoxoglycinate and hydroxyoxoalaninate. Zhur.neorg.khim.  
8 no.3:769-770 Mr '63. (MIRA 16:4)  
(Neodymium compounds) (Glycine) Alanine)

ZYAGINTSEVA, O.Ye.

Scientific conference devoted to the 25th anniversary of the  
Tashkent Pharmaceutical Institute. Zhur.neorg.khim. 8 no.4:  
1027 Ap '63. (MIRA 16:3)  
(Complex compounds--Congresses)  
(Chemistry, Medical and pharmaceutical--Congresses)

ZVIAGINSEV, O.Ye.; SHUBOCHINA, Ye.F.

Reaction kinetics of platinum (IV) nitrohalotetramines with ammonia and  
pyridine. Zhur.neorg.khim. 8 no.3:590-596 Mr '63. (MIRA 16:4)  
(Platinum compounds) (Ammonia) (Pyridine)

Seventh International Conference on Coordination Chemistry.  
Zhur.neorg.khim. 7 no.12:2820-2822 D '62. (MIRA 16:2)  
(Sweden—Complex compounds—Congresses)

GENKIN, A.D.; ZVIAGINTSEV, O.Ya.

"Vyssotskite," a new sulfide of palladium and nickel. Zap.Vses.  
min.ob-va 91 no.6:718-725 '62. (MIRA 16:2)

1. Institut geologii rudnykh mestorozhdeniy, petrografii,  
mineralogii i geokhimii AN SSSR i Institut obshchey i neorgani-  
cheskoy khimii AN SSSR, Moskva.  
(Sulfides) (Palladium) (Nickel)

ZVIAGINTSEV, O.Ye.; GONCHAROV, Ye.V.

Interaction of neodymium chloride with  $\alpha$ -alanine. Zhur.  
neorg. khim. 7 no.8:1892-1901 Ag '62. (MIRA 16#6)

(Neodymium chloride) (Alanine)

ZVYAGINTSEV, O.Ye.; GONCHAROV, Ye.V.

Interaction of neodymium chloride with glycine. Zhur. neorg.  
khim. 7 no.8:1880-1891 Ag '62. (MIRA 16:6)

(Neodymium chloride) (Glycine)

OVENIKOV, O.E.

"Jakob Berzelius" by IU.I. Solov'ev, V.I. Kurinnoi. Reviewed  
by O.E. Zviagintsev. Priroda 51 no.7:124 JI '62. (MIRA 15:9)

1. Institut obshchey i neorganicheskoy khimii im. N.S. Kurnakova,  
Moskva.

(Berzelius, Jöns Jakob, Friherre, 1779-1848)  
(Solov'ev, IU.I.) (Kurinnol, V.I.)